


**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☐**APPLICATION FOR PERMIT TO DRILL**

<b>2. TYPE OF WORK</b> DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>				<b>1. WELL NAME and NUMBER</b> NBU 920-12M4CS		
<b>4. TYPE OF WELL</b> Gas Well Coalbed Methane Well: NO				<b>3. FIELD OR WILDCAT</b> NATURAL BUTTES		
<b>6. NAME OF OPERATOR</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.				<b>5. UNIT or COMMUNITIZATION AGREEMENT NAME</b> NATURAL BUTTES		
<b>8. ADDRESS OF OPERATOR</b> P.O. Box 173779, Denver, CO, 80217				<b>7. OPERATOR PHONE</b> 720 929-6587		
<b>10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)</b> UTU 0144868B		<b>11. MINERAL OWNERSHIP</b> FEDERAL <input checked="" type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>		<b>9. OPERATOR E-MAIL</b> mary.mondragon@anadarko.com		
<b>13. NAME OF SURFACE OWNER (if box 12 = 'fee')</b>				<b>12. SURFACE OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input checked="" type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>		
<b>15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')</b>				<b>14. SURFACE OWNER PHONE (if box 12 = 'fee')</b>		
<b>17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')</b> Ute Tribe				<b>16. SURFACE OWNER E-MAIL (if box 12 = 'fee')</b>		
<b>18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS</b> YES <input checked="" type="checkbox"/> (Submit Commingling Application) NO <input type="checkbox"/>		<b>19. SLANT</b> VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>				
<b>20. LOCATION OF WELL</b>	<b>FOOTAGES</b>	<b>QTR-QTR</b>	<b>SECTION</b>	<b>TOWNSHIP</b>	<b>RANGE</b>	<b>MERIDIAN</b>
<b>LOCATION AT SURFACE</b>	422 FNL 2135 FWL	NENW	13	9.0 S	20.0 E	S
<b>Top of Uppermost Producing Zone</b>	240 FSL 675 FWL	SWSW	12	9.0 S	20.0 E	S
<b>At Total Depth</b>	240 FSL 675 FWL	SWSW	12	9.0 S	20.0 E	S
<b>21. COUNTY</b> UINTAH		<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 240		<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 600		
		<b>25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 1600		<b>26. PROPOSED DEPTH</b> MD: 11017 TVD: 10750		
<b>27. ELEVATION - GROUND LEVEL</b> 4710		<b>28. BOND NUMBER</b> WYB000291		<b>29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b> Permit #43-8496		

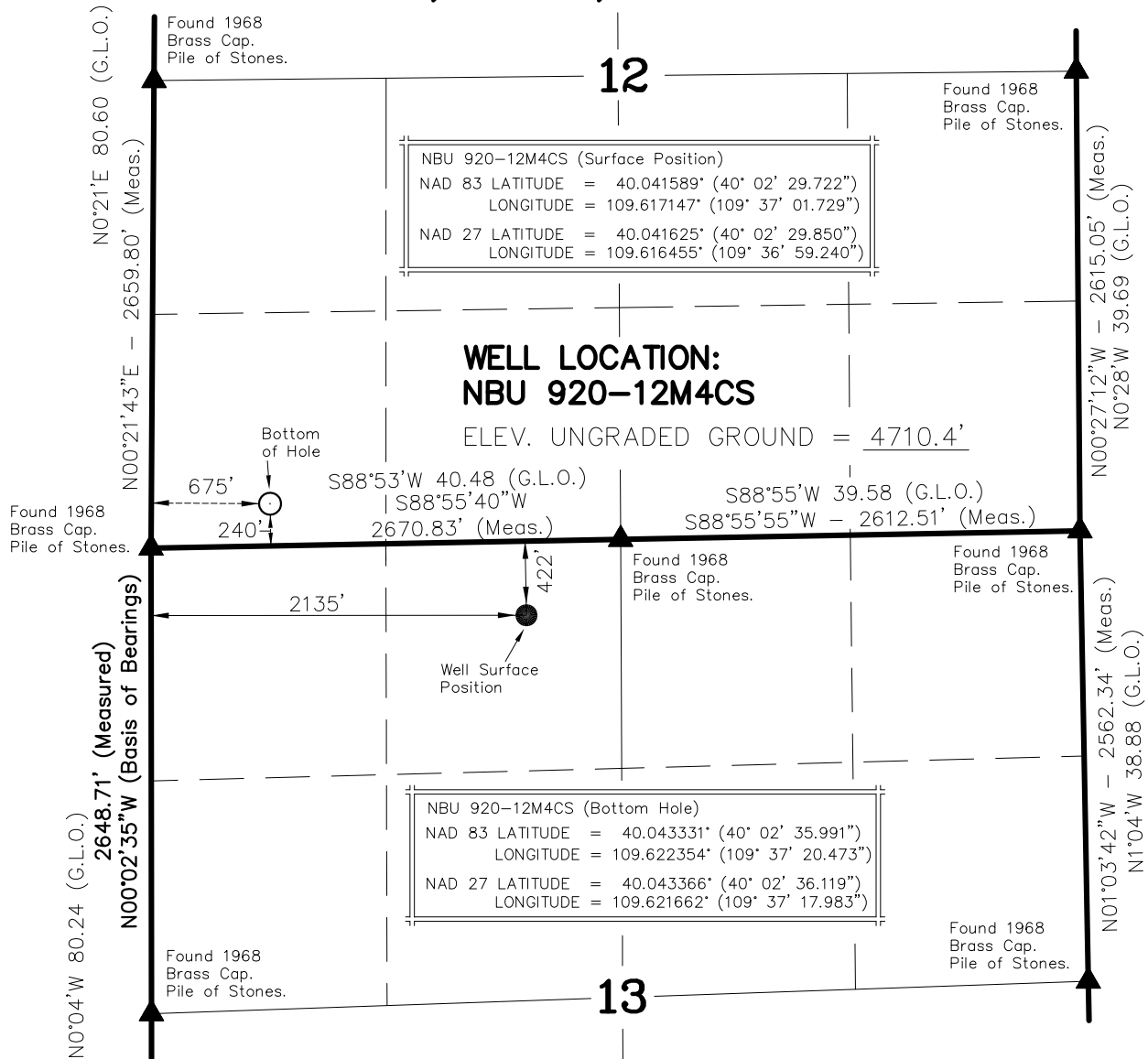
**ATTACHMENTS****VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES**

<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER	<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN
<input type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)	<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER
<input checked="" type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)	<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP
<b>NAME</b> Danielle Piernot	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b>	<b>PHONE</b> 720 929-6156
<b>API NUMBER ASSIGNED</b> 43047505220000	<b>DATE</b> 06/29/2009
<b>APPROVAL</b>	<b>EMAIL</b> danielle.piernot@anadarko.com
 Permit Manager	

Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Prod	7.875	4.5	0	11017		
Pipe	Grade	Length	Weight			
	Grade P-110 LT&C	11017	11.6			

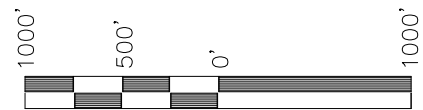
Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Surf	12.25	9.625	0	2735		
Pipe	Grade	Length	Weight			
	Grade J-55 LT&C	2735	36.0			

# T9S, R20E, S.L.B.&M.



## NOTES:

- ▲ = Section Corners Located
- 1. Well footages are measured at right angles to the Section Lines.
- 2. G.L.O. distances are shown in feet or chains. 1 chain = 66 feet.
- 3. The Bottom of hole bears N66°29'14"W 1590.23' from the Surface Position.
- 4. Bearings are based on Global Positioning Satellite observations.
- 5. Basis of elevation is the Northwest Corner of Section 12, T9S, R20E, S.L.B.&M. The elevation of this Section Corner is shown on the Ouray SE 7.5 Min. Quadrangle as being 4676'.



SCALE

## SURVEYOR'S CERTIFICATE

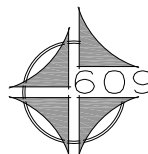
THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

*Kathy R. Kay*  
REGISTERED LAND SURVEYOR  
REGISTRATION NO. 362251  
STATE OF UTAH

**Kerr-McGee  
Oil & Gas Onshore, LP**

1099 18th Street - Denver, Colorado 80202

**NBU 920-12M4CS  
WELL PLAT**  
240' FSL, 675' FWL (Bottom Hole)  
SW  $\frac{1}{4}$  SW  $\frac{1}{4}$  OF SECTION 12, T9S, R20E,  
S.L.B.&M. UTAH COUNTY, UTAH.



**CONSULTING, LLC**  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

**TIMBERLINE**

(435) 789-1365

**ENGINEERING & LAND SURVEYING, INC.**

209 NORTH 300 WEST - VERNAL, UTAH 84078

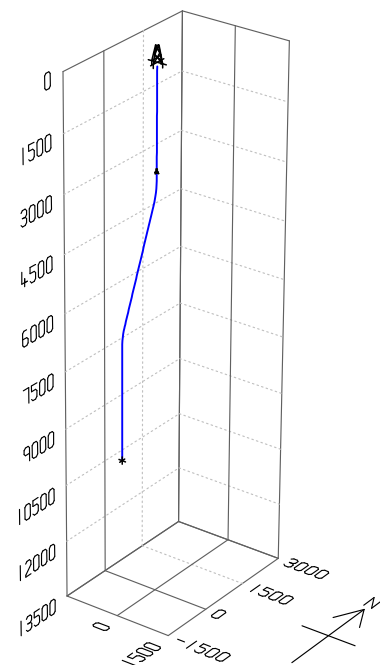
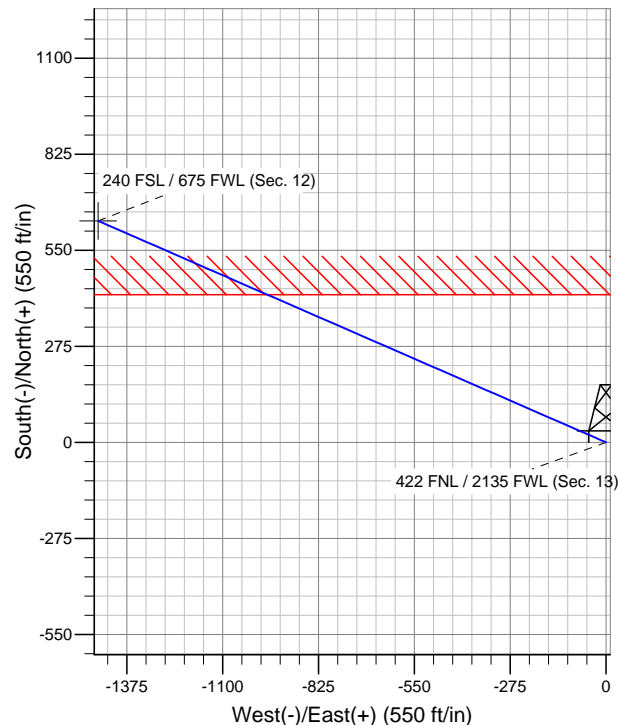
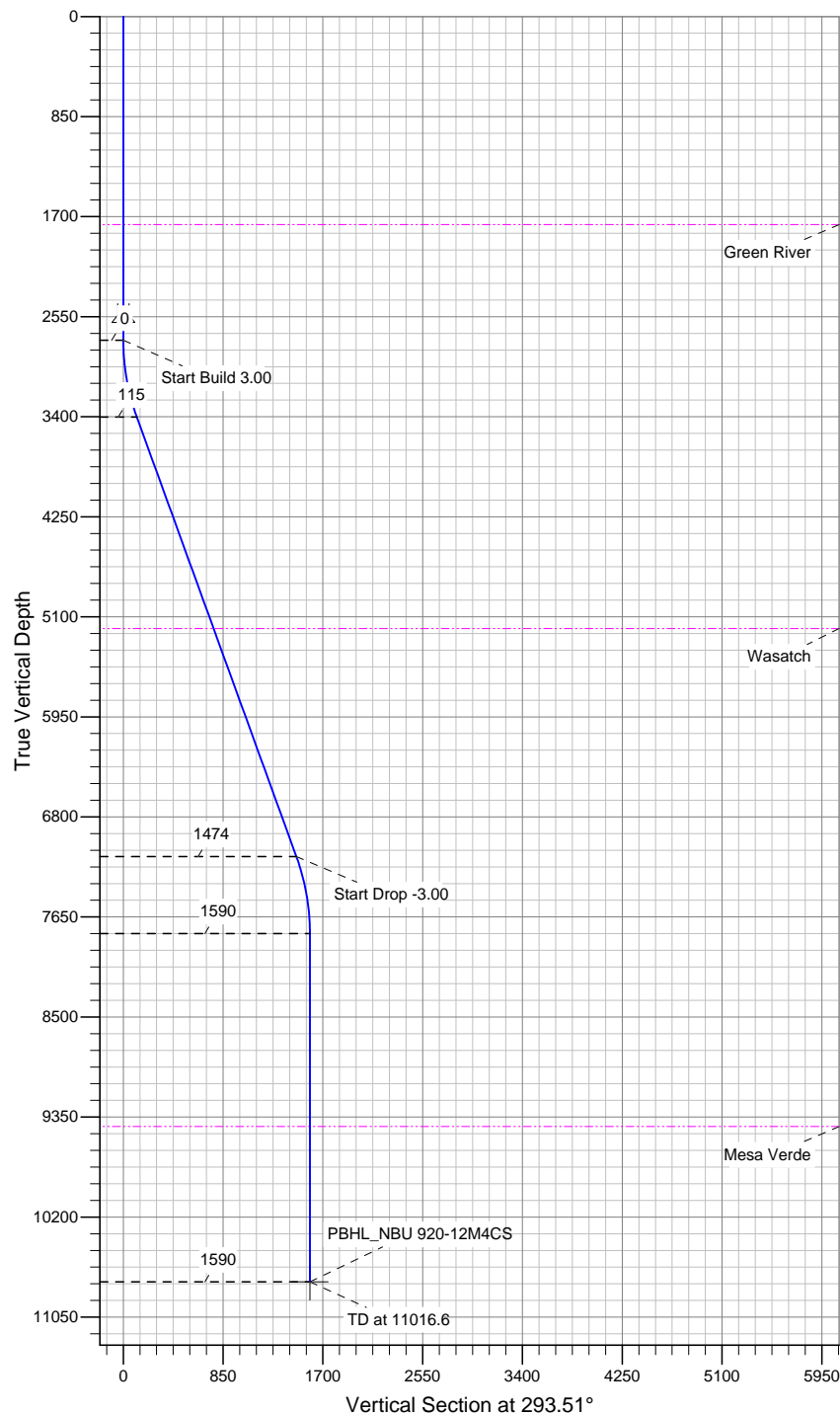
DATE SURVEYED: 01-02-09	SURVEYED BY: M.S.B.	<b>SHEET 1 OF 12</b>
DATE DRAWN: 03-19-09	DRAWN BY: M.W.W.	
SCALE: 1" = 1000'	Date Last Revised:	



'APIWellNo:43047505220000'



Well Name: P\_NBU 920-12M4CS  
 Surface Location: UINTAH\_NBU 920-13C PAD  
 NAD 1927 (NADCON CONUS) Universal Transverse Mercator (US Survey Feet)  
 UTAH - UTM (feet), NAD27, Zone 12N  
 Ground Elevation: 4710.0  
 Northing 14544209.76 Easting 2027661.13 Latitude 40.041625°N Longitude 109.616455°W



#### SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
2	2750.0	0.00	0.00	2750.0	0.0	0.0	0.00	0.00	0.0
3	3416.7	20.00	293.51	3403.2	45.9	-105.6	3.00	293.51	115.2
4	7390.7	20.00	293.51	7137.6	588.2	-1352.0	0.00	0.00	1474.4
5	8057.3	0.00	0.00	7790.8	634.1	-1457.6	3.00	180.00	1589.5
6	11016.6	0.00	0.00	10750.0	634.1	-1457.6	0.00	0.00	1589.5



Azimuths to True North  
 Magnetic North: 11.39°

Magnetic Field  
 Strength: 52578.1snT  
 Dip Angle: 65.94°  
 Date: 4/22/2009  
 Model: IGRF200510

# **ROCKIES - PLANNING**

**UTAH - UTM (feet), NAD27, Zone 12N**

**UINTAH\_NBU 920-13C PAD**

**P\_NBU 920-12M4CS**

**P\_NBU 920-12M4CS**

**Plan: Plan #2 04-23-09 ZJRA6**

## **Standard Planning Report - Geographic**

**23 April, 2009**

# APC

## Planning Report - Geographic

<b>Database:</b>	apc_edmp	<b>Local Co-ordinate Reference:</b>	Well P_NBU 920-12M4CS
<b>Company:</b>	ROCKIES - PLANNING	<b>TVD Reference:</b>	WELL @ 4710.0ft (Original Well Elev)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	WELL @ 4710.0ft (Original Well Elev)
<b>Site:</b>	UINTAH_NBU 920-13C PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NBU 920-12M4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NBU 920-12M4CS		
<b>Design:</b>	Plan #2 04-23-09 ZJRA6		

<b>Project</b>	UTAH - UTM (feet), NAD27, Zone 12N		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Fee	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

Site		UINTAH_NBU 920-13C PAD				
Site Position:		Northing:	14,544,243.61 ft	Latitude:	40.041717°N	
From:	Lat/Long	Easting:	2,027,682.45 ft	Longitude:	109.616377°W	
Position Uncertainty:		0.0 ft	Slot Radius:	"	Grid Convergence:	0.89 °

Well	P_NBU 920-12M4CS					
Well Position	+N-S	0.0 ft	Northing:	14,544,209.76 ft	Latitude:	40.041625°N
	+E-W	0.0 ft	Easting:	2,027,661.13 ft	Longitude:	109.616455°W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,710.0 ft

<b>Wellbore</b>	P_NBU 920-12M4CS				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	4/22/2009	11.39	65.94	52,578

<b>Design</b>	Plan #2 04-23-09 ZJRA6			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	293.51

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,750.0	0.00	0.00	2,750.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,416.7	20.00	293.51	3,403.2	45.9	-105.6	3.00	3.00	0.00	293.51	
7,390.7	20.00	293.51	7,137.6	588.2	-1,352.0	0.00	0.00	0.00	0.00	
8,057.3	0.00	0.00	7,790.8	634.1	-1,457.6	3.00	-3.00	0.00	180.00	
11,016.6	0.00	0.00	10,750.0	634.1	-1,457.6	0.00	0.00	0.00	0.00	PBHL_NBU 920-12

# APC

## Planning Report - Geographic

<b>Database:</b>	apc_edmp	<b>Local Co-ordinate Reference:</b>	Well P_NBU 920-12M4CS
<b>Company:</b>	ROCKIES - PLANNING	<b>TVD Reference:</b>	WELL @ 4710.0ft (Original Well Elev)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	WELL @ 4710.0ft (Original Well Elev)
<b>Site:</b>	UINTAH_NBU 920-13C PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NBU 920-12M4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NBU 920-12M4CS		
<b>Design:</b>	Plan #2 04-23-09 ZJRA6		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	14,544,209.76	2,027,661.13	40.041625°N	109.616455°W
1,767.0	0.00	0.00	1,767.0	0.0	0.0	14,544,209.76	2,027,661.13	40.041625°N	109.616455°W
<b>Green River</b>									
2,600.0	0.00	0.00	2,600.0	0.0	0.0	14,544,209.76	2,027,661.13	40.041625°N	109.616455°W
<b>Surface Casing</b>									
2,750.0	0.00	0.00	2,750.0	0.0	0.0	14,544,209.76	2,027,661.13	40.041625°N	109.616455°W
3,416.7	20.00	293.51	3,403.2	45.9	-105.6	14,544,254.07	2,027,554.82	40.041751°N	109.616832°W
5,328.8	20.00	293.51	5,200.0	306.8	-705.3	14,544,505.61	2,026,951.15	40.042467°N	109.618975°W
<b>Wasatch</b>									
7,390.7	20.00	293.51	7,137.6	588.2	-1,352.0	14,544,776.85	2,026,300.19	40.043240°N	109.621285°W
8,057.3	0.00	0.00	7,790.8	634.1	-1,457.6	14,544,821.16	2,026,193.87	40.043366°N	109.621662°W
9,696.6	0.00	0.00	9,430.0	634.1	-1,457.6	14,544,821.16	2,026,193.87	40.043366°N	109.621662°W
<b>Mesa Verde</b>									
11,016.6	0.00	0.00	10,750.0	634.1	-1,457.6	14,544,821.16	2,026,193.87	40.043366°N	109.621662°W

Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting		
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	Latitude	Longitude
PBHL_NBU 920-12M4	0.00	0.00	10,750.0	634.1	-1,457.6	14,544,821.16	2,026,193.87	40.043366°N	109.621662°W
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
2,600.0	2,600.0	Surface Casing	9-5/8	12-1/4	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
9,696.6	9,430.0	Mesa Verde		0.00	
1,767.0	1,767.0	Green River		0.00	
5,328.8	5,200.0	Wasatch		0.00	

**NBU 920-12M4CS**

Pad: NBU 920-13C

Surface: 422' FNL, 2,135' FWL (NE/4NW/4) Sec. 13

BHL: 240' FSL 675' FWL (SW/4SW/4) Sec. 12

T9S R20E

Uintah, Utah

Mineral Lease: UTU 0144868B

**ONSHORE ORDER NO. 1**

***DRILLING PROGRAM***

1. – 2. **Estimated Tops of Important Geologic Markers:**  
**Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:**

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 – Surface	
Green River	1,767'	
Birds Nest	2,011'	Water
Mahogany	2,533'	Water
Wasatch	5,200'	Gas
Mesaverde	8,435'	Gas
MVU2	9,430'	Gas
MVL1	9,935'	Gas
TVD	10,750'	
TD	11,017'	

3. **Pressure Control Equipment** (Schematic Attached)

*Please refer to the attached Drilling Program.*

4. **Proposed Casing & Cementing Program:**

*Please refer to the attached Drilling Program.*

5. **Drilling Fluids Program:**

*Please refer to the attached Drilling Program.*

6. **Evaluation Program:**

*Please refer to the attached Drilling Program.*

7. **Abnormal Conditions:**

Maximum anticipated bottomhole pressure calculated at 11,017' TD (MD), approximately equals 6,749 psi (calculated at 0.61 psi/foot).

Maximum anticipated surface pressure equals approximately 4,221 psi (bottomhole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

8. **Anticipated Starting Dates:**

*Drilling is planned to commence immediately upon approval of this application.*

9. **Variances:**

*Please refer to the attached Drilling Program.*

*Onshore Order #2 – Air Drilling Variance*

*Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2*

- *Blowout Prevention Equipment (BOPE) requirements;*
- *Mud program requirements; and*
- *Special drilling operation (surface equipment placement) requirements associated with air drilling.*

*This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.*

*The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.*

*More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.*

***Background***

*In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.*

*Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found*

*competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.*

*The air rig is then mobilized to drill the surface casing hole by drilling a 12-1/4 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 12-1/4 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 9-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.*

*KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.*

#### ***Variance for BOPE Requirements***

*The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.*

#### ***Variance for Mud Material Requirements***

*Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.*

#### ***Variance for Special Drilling Operation (surface equipment placement) Requirements***

*Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.*

*Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.*

*Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see*

*attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.*

*Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.*

***Conclusion***

*The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.*

**10. Other Information:**

*Please refer to the attached Drilling Program.*



COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP	DATE	June 29, 2009		
WELL NAME	NBU 920-12M4CS	TD	10,750'	TVD	11,017' MD
FIELD	Natural Buttes	COUNTY	Uintah	STATE	Utah
				FINISHED ELEVATION	4,710'
SURFACE LOCATION	NE/4 NW/4	422' FNL	2,135' FWL	Sec 13	T 9S R 20E
	Latitude:	40.041589	Longitude:	-109.617147	NAD 83
BTM HOLE LOCATION	SW/4 SW/4	240' FSL	675' FWL	Sec 12	T 9S R 20E
	Latitude:	40.043331	Longitude:	-109.622354	NAD 83
OBJECTIVE ZONE(S)	Wasatch/Mesaverde				
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), Ute Tribe (Surface), UDOGM Tri-County Health Dept.				

NBU 920-12M4CS Drilling Program-updated 060409.xls



# KERR-McGEE OIL & GAS ONSHORE LP

## DRILLING PROGRAM

### CASING PROGRAM

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS		
						BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'						
						3,520	2,020	453,000
SURFACE	9-5/8"	0 to 2,735	36.00	J-55	LTC	0.79	1.58	5.86
						7,780	6,350	201,000
PRODUCTION	4-1/2"	0 to 9,917	11.60	I-80	LTC	1.79	0.95	1.80
						10,690	8,650	279,000
	4-1/2"	9,917 to 11,017	11.60	HCP-110	LTC	44.17	1.29	26.78

1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

2) MASP (Prod Casing) = Pore Pressure at TD - (0.22 psi/ft-partial evac gradient x TD)

(Burst Assumptions: TD = 12.0 ppg)

0.22 psi/ft = gradient for partially evac wellbore

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**MASP 4,221 psi**

3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

(Burst Assumptions: TD = 12.0 ppg)

0.61 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**MABHP 6,749 psi**

### CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	215	60%	15.60	1.18
			+ 0.25 pps flocele				
Option 1	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	380	0%	15.60	1.18
			+ 2% CaCl + 0.25 pps flocele				
			Premium cmt + 2% CaCl				
SURFACE		<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>					
Option 2	LEAD	2,235'	65/35 Poz + 6% Gel + 10 pps gilsonite	530	35%	12.60	1.81
			+ 0.25 pps Flocele + 3% salt BWOW				
	TAIL	500'	Premium cmt + 2% CaCl	180	35%	15.60	1.18
			+ 0.25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
PRODUCTION	LEAD	4,697'	Premium Lite II + 3% KCl + 0.25 pps	450	40%	11.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	6,320'	50/50 Poz/G + 10% salt + 2% gel	1,550	40%	14.30	1.31
			+ 0.1% R-3				

\*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

\*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

### FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

### ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER:

John Huycke / Emile Goodwin

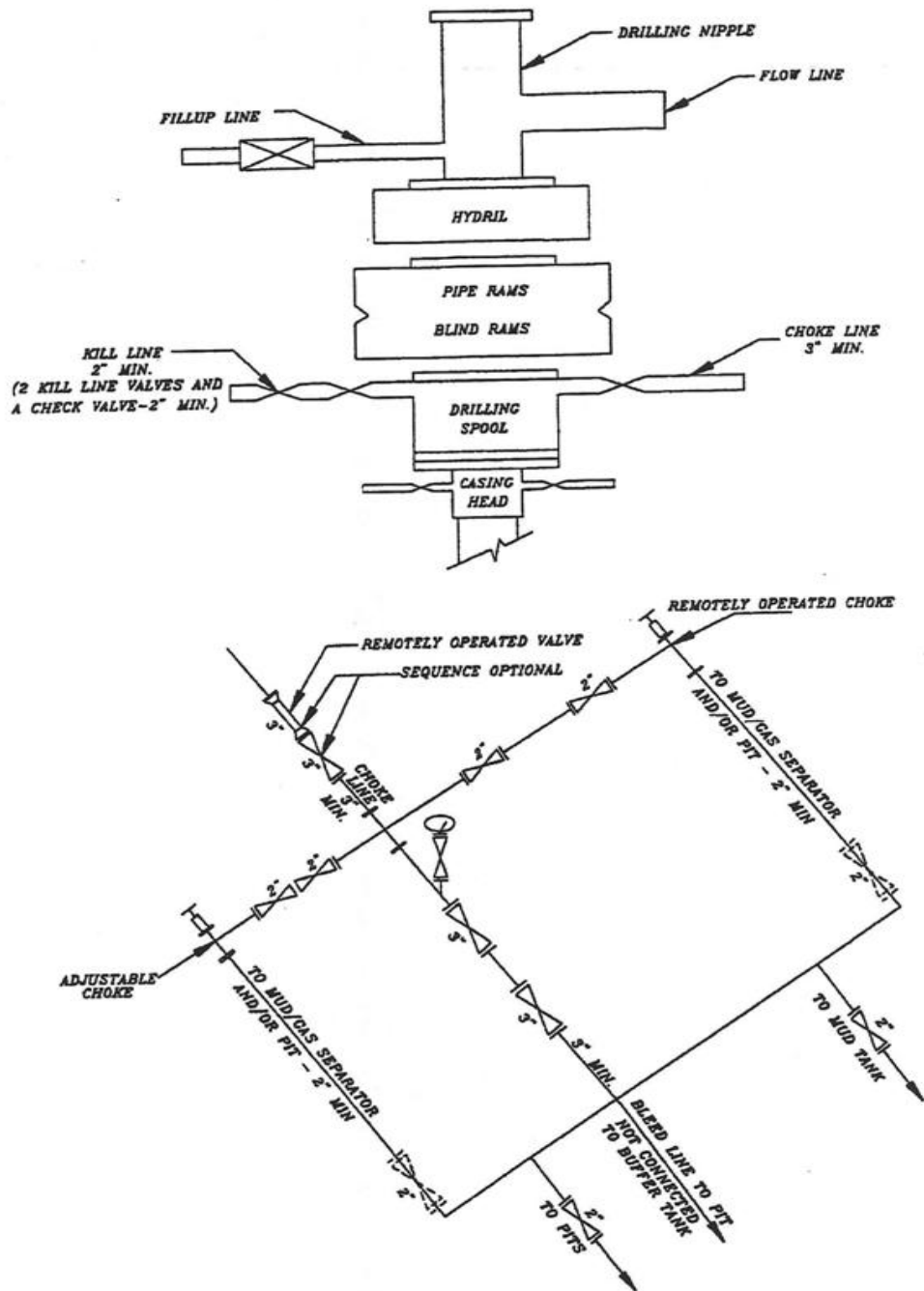
DATE:

DRILLING SUPERINTENDENT:

John Merkel / Lovel Young

DATE:

EXHIBIT A  
NBU 920-12M4CS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

# WELL PAD INTERFERENCE PLAT

## DIRECTIONAL PAD – NBU 920-13C



LATITUDE & LONGITUDE Surface Position – (NAD 27)		
WELL	N. LATITUDE	W. LONGITUDE
920-12M4CS	40°02'29.850" 40.041625°	109°36'59.240" 109.616455°
920-13C4BS	40°02'30.015" 40.041671°	109°36'59.098" 109.616416°
920-13C1AS	40°02'30.180" 40.041717°	109°36'58.958" 109.616377°
Existing Well NBU 920-13C	40°02'30.346" 40.041763°	109°36'58.816" 109.616338°

RELATIVE COORDINATES From Surface Position to Bottom Hole		
WELL	NORTH	EAST
920-12M4CS	634'	-1,458'
920-13C4BS	-516'	-45'
920-13C1AS	227'	443'

BASIS OF BEARINGS IS THE WEST LINE OF THE NW  
1/4 OF SECTION 13, T9S, R20E, S.L.B.&M. WHICH  
IS TAKEN FROM GLOBAL POSITIONING SATELLITE  
OBSERVATIONS TO BEAR N00°02'35"W.

LATITUDE & LONGITUDE Bottom Hole – (NAD 27)		
WELL	N. LATITUDE	W. LONGITUDE
920-12M4CS	40°02'36.119" 40.043366°	109°37'17.983" 109.621662°
920-13C4BS	40°02'24.919" 40.040255°	109°36'59.679" 109.616577°
920-13C1AS	40°02'32.422" 40.042339°	109°36'53.259" 109.614794°

EXISTING WELL NBU 920-13C

NBU 920-13C1AS

Az. to Exist. W.H.=33.12361° 20.0'

NBU 920-13C4BS

Az. to Exist. W.H.=33.12361° 40.0'

NBU 920-12M4CS

Az. to Exist. W.H.=33.12361° 60.0'

### SURFACE POSITION FOOTAGES:

NBU 920-12M4CS

422' FNL & 2135' FWL

NBU 920-13C4BS

405' FNL & 2146' FWL

NBU 920-13C1AS

389' FNL & 2156' FWL

EXISTING WELL NBU 920-13C

372' FNL & 2168' FWL

### BOTTOM HOLE FOOTAGES

NBU 920-12M4CS

240' FSL & 675' FWL (Sec. 12)

NBU 920-13C4BS

920' FNL & 2100' FWL

NBU 920-13C1AS

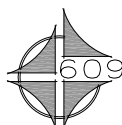
170' FNL & 2600' FWL

LATITUDE & LONGITUDE Surface Position – (NAD 83)		
WELL	N. LATITUDE	W. LONGITUDE
920-12M4CS	40°02'29.722" 40.041589°	109°37'01.729" 109.617147°
920-13C4BS	40°02'29.887" 40.041635°	109°37'01.586" 109.617107°
920-13C1AS	40°02'30.052" 40.041681°	109°37'01.447" 109.617069°
Existing Well NBU 920-13C	40°02'30.218" 40.041727°	109°37'01.305" 109.617029°

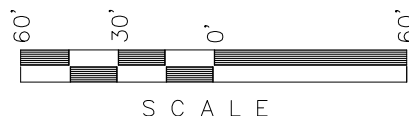
LATITUDE & LONGITUDE Bottom Hole – (NAD 83)		
WELL	N. LATITUDE	W. LONGITUDE
920-12M4CS	40°02'35.991" 40.043331°	109°37'20.473" 109.622354°
920-13C4BS	40°02'24.791" 40.040220°	109°37'02.168" 109.617269°
920-13C1AS	40°02'32.294" 40.042304°	109°36'55.747" 109.615485°

**Kerr-McGee**  
**Oil & Gas Onshore, LP**  
1099 18th Street – Denver, Colorado 80202

NBU 920-12M4CS,  
NBU 920-13C4BS & NBU 920-13C1AS  
LOCATED IN SECTION 13, T9S, R20E,  
S.L.B.&M. UINTAH COUNTY, UTAH.



CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

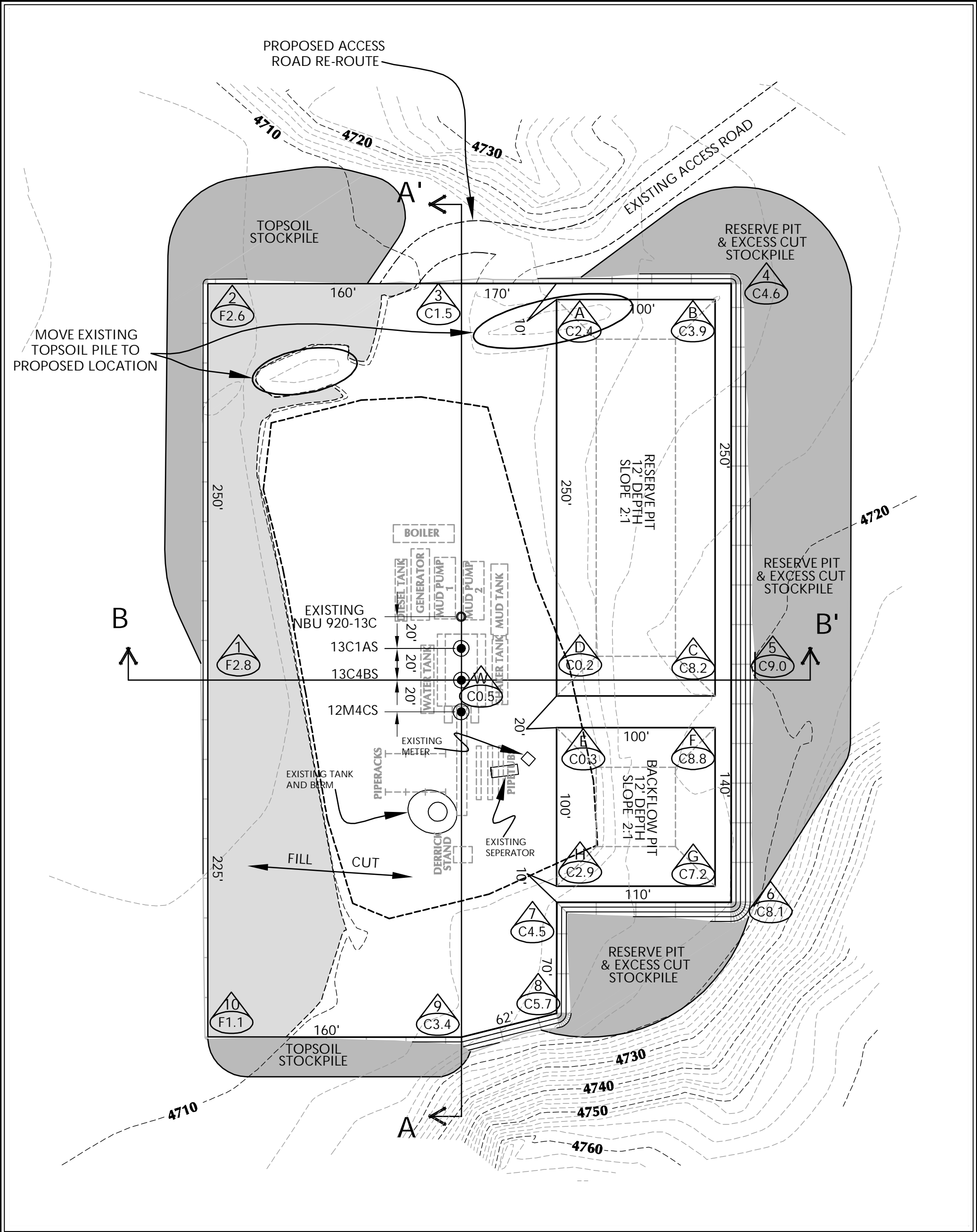


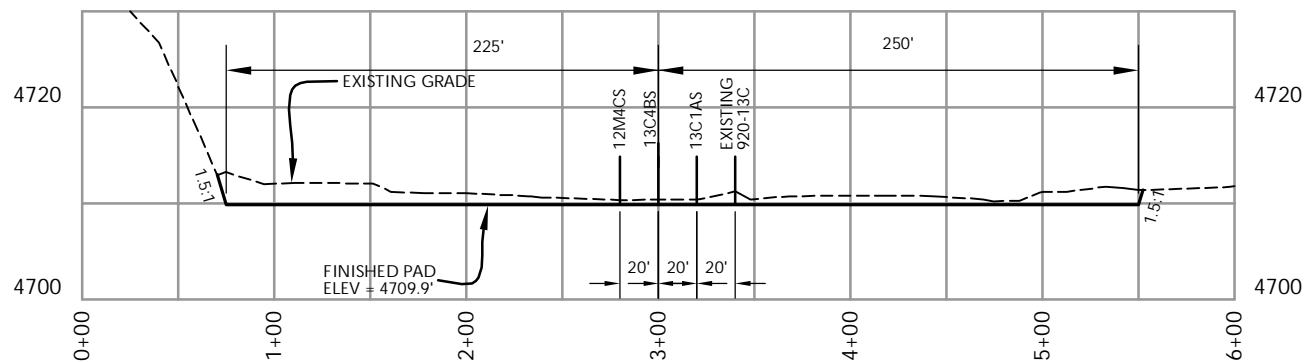
DATE SURVEYED: 01-02-09	SURVEYED BY: M.S.B.
DATE DRAWN: 03-19-09	DRAWN BY: M.W.W.
REVISED:	

**Timberline** (435) 789-1365  
Engineering & Land Surveying, Inc.  
209 NORTH 300 WEST VERNAL, UTAH 84078

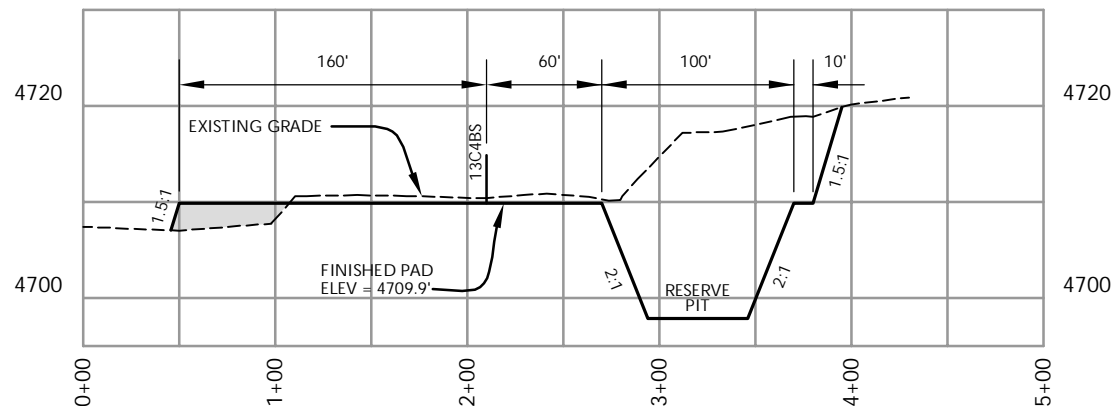
SHEET  
4  
OF 12

\*APIWellNo:430475052200000\*





**CROSS SECTION A-A'**



**CROSS SECTION B-B'**

NOTE: CROSS SECTION B-B' DEPICTS  
MAXIMUM RESERVE PIT DEPTH.

**KERR-MCGEE OIL & GAS  
ONSHORE L.P.**

1099 18th Street - Denver, Colorado 80202

**WELL PAD - CROSS SECTIONS**  
NBU 920-12M4CS,  
NBU 920-13C4BS & NBU920-13C1AS  
LOCATED IN SECTION 13, T.9S., R.20E.  
S.L.B.&M., UINTAH COUNTY, UTAH



**CONSULTING, LLC**  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

Scale: 1"=100'

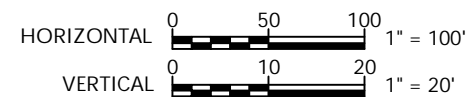
Date: 3/19/09

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**6**

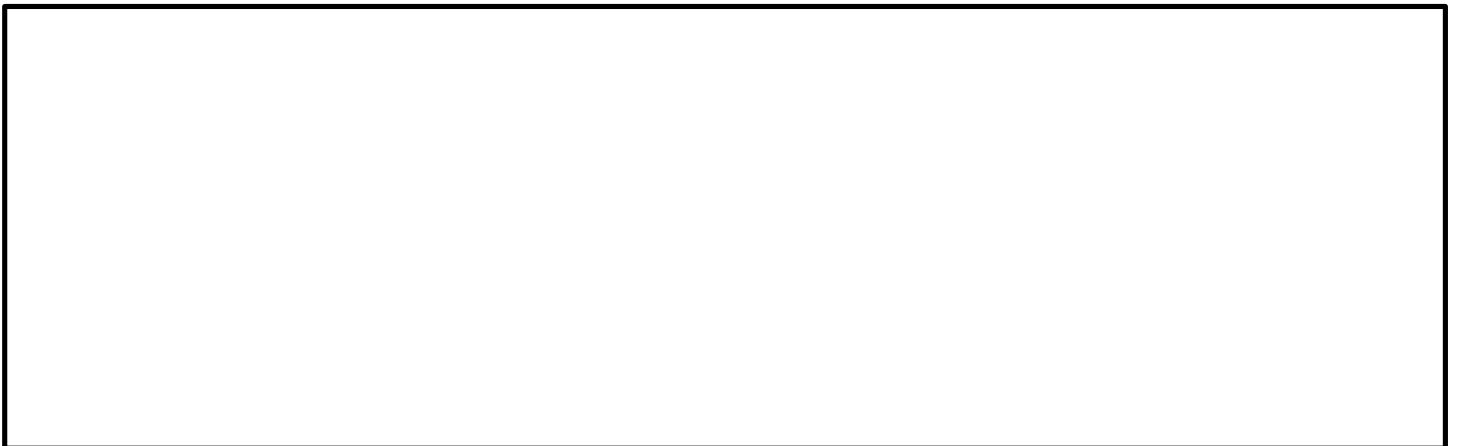
6 OF 12

REVISED:



**Timberline** (435) 789-1365  
**Engineering & Land Surveying, Inc.**  
38 WEST 100 NORTH VERNAL, UTAH 84078

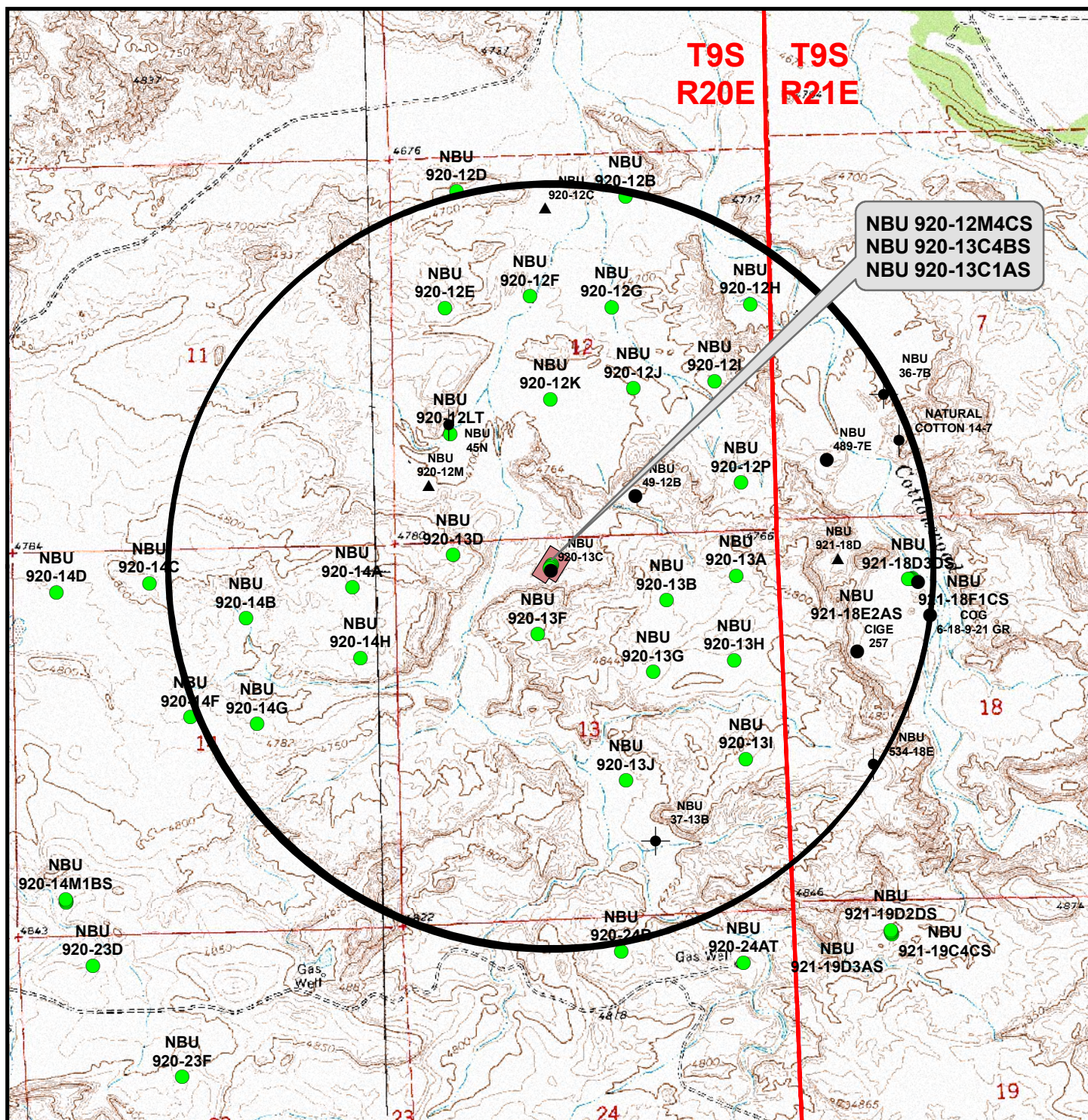
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Sheet No:  
**9** 9 of 12





### Legend

- |  |   |   |  |  |
|--|---|---|--|--|
| <span style="color: green;">●</span> Well - Proposed   | <span style="border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> Well - 1 Mile Radius | <span style="color: black;">●</span> Producing                                      | <span style="color: black;">✕</span> Location Abandoned    | <span style="color: black;">●</span> Shut-In |
| <span style="background-color: #d3d3d3; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> Well Pad |   | <span style="color: black;">▲</span> Approved permit (APD); not yet spudded         | <span style="color: black;">●</span> Temporarily-Abandoned |  |
|  |   | <span style="color: black;">○</span> Spudded (Drilling commenced: Not yet complete) | <span style="color: black;">●</span> Plugged and Abandoned |  |

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street, Denver, Colorado 80202

**NBU 920-12M4CS,  
NBU 920-13C4BS & NBU 920-13C1AS  
Topo C  
Located In Section 13, T9S, R20E  
S.L.B.&M., Uintah County, Utah**

**609**  
**CONSULTING, LLC**  
371 Coffeen Avenue  
Sheridan, WY 82801  
Phone (307) 674-0609  
Fax (307) 674-0182



Scale: 1" = 2000ft	NAD83 USP Central
Drawn: JELO	Date: 20 Mar 2009
Revised:	Date:

Sheet No:  
**10** 10 of 12



Sheet No:  
**11** 11 of 12



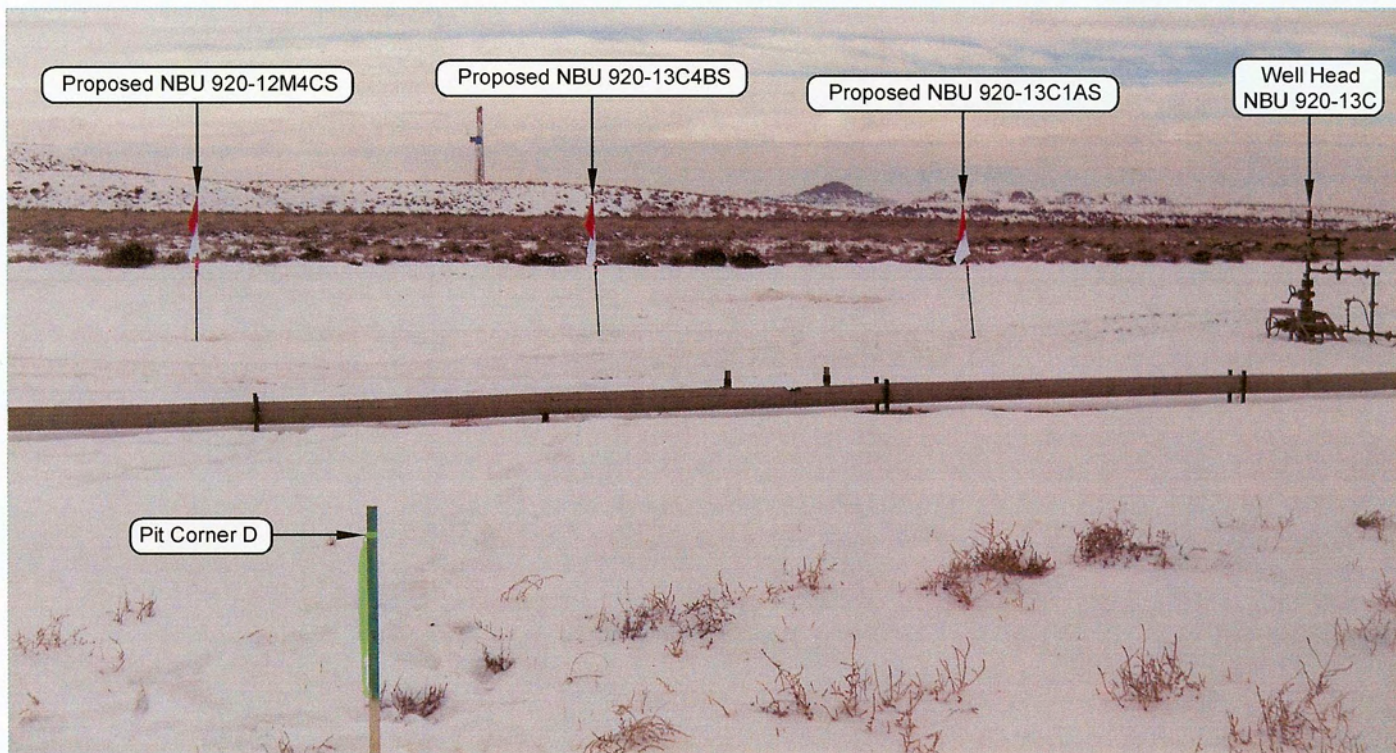


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKES

CAMERA ANGLE: NORTHWESTERLY

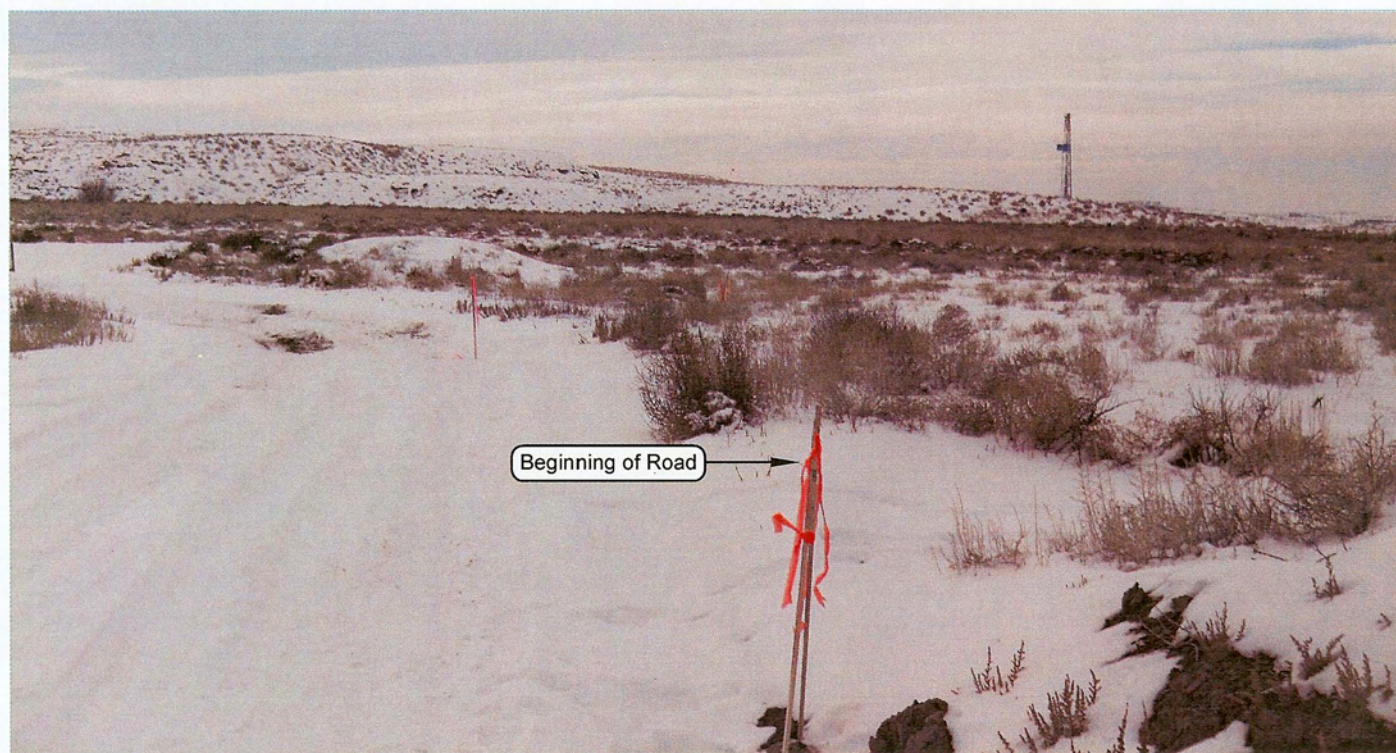


PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

CAMERA ANGLE: WESTERLY

**Kerr-McGee  
Oil & Gas Onshore, LP**

1099 18th Street — Denver, Colorado 80202

NBU 920-12M4CS,  
NBU 920-13C4BS & NBU 920-13C1AS  
LOCATED IN SECTION 13, T9S, R20E,  
S.L.B.&M. UINTAH COUNTY, UTAH.



CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

**LOCATION PHOTOS**

TAKEN BY: M.S.B.

DRAWN BY: M.W.W.

DATE TAKEN: 01-02-09

DATE DRAWN: 03-19-09

REVISED:

**Timberline** (435) 789-1365  
Engineering & Land Surveying, Inc.  
209 NORTH 300 WEST VERNAL, UTAH 84078

**SHEET  
7  
OF 12**



**Kerr-McGee Oil & Gas Onshore, LP**  
**NBU 920-12M4CS, NBU 920-13C4BS, & NBU 920-13C1AS**  
**Section 13, T9S, R20E, S.L.B.&M.**

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 13.9 MILES TO THE JUNCTION OF STATE HIGHWAY 88. EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION ALONG STATE HIGHWAY 88 APPROXIMATELY 16.8 MILES TO OURAY, UTAH. FROM OURAY, PROCEED IN A SOUTHERLY DIRECTION ALONG THE SEEP RIDGE ROAD (COUNTY B ROAD 2810) APPROXIMATELY 5.3 MILES TO THE INTERSECTION OF AN EXISTING ROAD TO THE EAST. EXIT LEFT AND PROCEED IN A NORTHEASTERLY THEN SOUTHEASTERLY DIRECTION ALONG EXISTING ROAD APPROXIMATELY 4.5 MILES TO THE INTERSECTION OF AN EXISTING ROAD TO THE NORTH. EXIT LEFT AND PROCEED IN A NORTHERLY THEN NORTHWESTERLY DIRECTION ALONG EXISTING ROAD APPROXIMATELY 1.9 MILES TO THE INTERSECTION OF AN EXISTING ROAD TO THE NORTHWEST. EXIT LEFT AND PROCEED IN A NORTHWESTERLY DIRECTION ALONG EXISTING ROAD APPROXIMATELY 0.5 MILES TO THE NBU 920-13C WELL PAD.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 42.9 MILES IN A SOUTHERLY DIRECTION.

**NBU 920-12M4CS**

Surface: 422' FNL, 2,135' FWL (NE/4NW/4) Sec. 13

BHL: 240' FSL 675' FWL (SW/4SW/4) Sec. 12

Mineral Lease: UTU 0144868B

**NBU 920-13C1AS**

Surface: 389' FNL, 2,156' FWL (NE/4NW/4) Sec. 13

BHL: 170' FNL 2,600' FWL (NE/4NW/4) Sec. 13

Mineral Lease: UTU 0579

**NBU 920-13C4BS**

Surface: 405' FNL, 2,146' FWL (NE/4NW/4) Sec. 13

BHL: 920' FNL 2,100' FWL (NE/4NW/4) Sec. 13

Mineral Lease: UTU 0579

Pad: NBU 920-13C

T9S R20E

Uintah, Utah

Surface Owner: Ute Indian Tribe

**ONSHORE ORDER NO. 1**

***MULTI-POINT SURFACE USE & OPERATIONS PLAN  
SUBMITTED WITH SITE-SPECIFIC INFORMATION***

This Application for Permit to Drill (APD) is filed under the Notice of Staking (NOS) process as stated in Onshore Order No. 1 (OSO #1) and supporting Bureau of Land Management (BLM) and Bureau of Indian Affairs (BIA) documents. NOSs were submitted showing the surface locations in NE/4 NW/4 of Section 13 T9S R20E.

This Surface Use Plan of Operations (SUPO) or 13-point plan provides the site-specific information for the above-referenced wells. This information is to be incorporated by reference into the Master Development Plan (MDP) for Kerr-McGee Oil & Gas Onshore LP (Kerr-McGee). The MDP is available upon request from the BIA-Ft Duchesne Office.

An on-site meeting was held on June 24, 2009. Present were:

- Verlyn Pindell and Dave Gordon – BLM;
- Kolby Kay and Mitch Batty – Timberline Surveying, Inc.
- Tony Kazeck, Jeff Samuels, Raleen White, David Liddell, and Hal Blanchard – Kerr-McGee
- Bucky Secakuku – BIA
- Nick Hall – Grasslands Consulting, Inc.
- Scott Carson – Smiling Lake Consulting
- Keith Montgomery – Montgomery Archaeological Consultants, Inc.

**Directional Drilling:**

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, this well will be directionally drilled in order to access portions of our lease which are otherwise inaccessible due to topography.

**1. Existing Roads:**

- A) Refer to Topo Map A for directions to the location.
- B) Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

**2. Planned Access Roads:**

*See MDP for additional details on road construction.*

Approximately  $\pm 0.03$  miles ( $\pm 145'$ ) of new access road is proposed. Please refer to the attached Topo Map B. No pipelines will be crossed with the new construction.

*Existence of pipelines; maximum grade; turnouts; major cut and fills, culverts, or bridges; gates, cattle guards, fence cuts, or modifications to existing facilities were determined at the on-site and are typically shown on the attached Exhibits and Topo maps.*

**3. Location of Existing Wells Within a 1-Mile Radius:**

Please refer to Topo Map C.

**4. Location of Existing and Proposed Facilities:**

*See MDP for additional details on Existing and Proposed Facilities.*

*The following guidelines will apply if the well is productive.*

**Approximately  $\pm 2,500'$  of pipeline is proposed. Refer to Topo D for the existing pipeline.**

Appropriate surface use agreements have been or will be obtained from the Ute Indian Tribe. Pipeline segments will be welded or zaplocked together on disturbed areas in or near the location, whenever possible, and dragged into place

**5. Location and Type of Water Supply:**

*See MDP for additional details on Location and Type of Water Supply.*

Water for drilling purposes will be obtained from Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim number 43-8496, Application number 53617. Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

**6. Source of Construction Materials:**

*See MDP for additional details on Source of Construction Materials.*

**7. Methods of Handling Waste Materials:**

*See MDP for additional details on Methods of Handling Waste Materials.*

Any produced water from the proposed well will be contained in a water tank and will then be hauled by truck to one of the pre-approved disposal sites:

RNI in Sec. 5 T9S R22E  
NBU #159 in Sec. 35 T9S R21E  
Ace Oilfield in Sec. 2 T6S R20E  
MC&MC in Sec. 12 T6S R19E  
Pipeline Facility in Sec. 36 T9S R20E  
Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E  
Bonanza Evaporation Pond in Sec. 2 T10S R23E

**8. Ancillary Facilities:**

*See MDP for additional details on Ancillary Facilities.*

None are anticipated.

**9. Well Site Layout:** (See Location Layout Diagram)

*See MDP for additional details on Well Site Layout.*

All pits will be fenced according to the following minimum standards:

- Net wire (39-inch) will be used with at least one strand of barbed wire on top of the net wire. Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.
- The net wire shall be no more than two inches above the ground. The barbed wire shall be three inches over the net wire. Total height of the fence shall be at least 42 inches.
- Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.
- Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.
- All wire shall be stretched, by using a stretching device, before it is attached to corner posts.

**10. Plans for Reclamation of the Surface:**

*See MDP for additional details on Plans for Reclamation of the Surface.*

Kerr-McGee shall call the BIA for the seed mixture prior to starting interim and/or final reclamation actions.

**11. Surface/Mineral Ownership:**

The well pad and access road are located on lands owned by:

Ute Indian Tribe  
PO Box 70  
Fort Duchesne, Utah 84026  
435-722-5141

The mineral ownership is listed below:

United States of America  
Bureau of Land Management  
170 South 500 East  
Vernal, UT 84078  
435-781-4400

**12. Other Information:**

*See MDP for additional details on Other Information.*



**13. Lessee's or Operators' Representative & Certification:**

Kathy Schneebeck Dulnoan  
Staff Regulatory Analyst  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6007

Tommy Thompson  
General Manager, Drilling  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6724

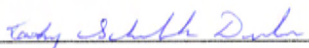
Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

  
Kathy Schneebeck Dulnoan

June 29, 2009  
Date



## Kerr-McGee Oil & Gas Onshore LP

1099 18th Street, Suite 1800  
Denver, CO 80202-1918  
P.O. Box 173779  
Denver, CO 80217-3779  
720-929-6000

April 28, 2009

Ms. Diana Mason  
Division of Oil, Gas and Mining  
P.O. Box 145801  
Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11  
NBU 920-12M4CS  
T9S-R20E  
Section 13: NENW (Surf),  
Section 12: SWSW (Bottom)  
Surface: 422' FNL, 2135' FWL  
Bottom Hole: 240' FSL, 675' FWL  
Uintah County, Utah


Dear Ms. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling.

- Kerr-McGee's NBU 920-12M4CS is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

Therefore, based on the above stated information, Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,  
**KERR-MCGEE OIL & GAS ONSHORE LP**

  
Lynn Padgett  
Staff Landman

CLASS I REVIEW OF KERR-MCGEE OIL & GAS  
ONSHORE LP'S 14 PROPOSED WELL LOCATIONS  
AND ACCESS/PIPELINE REROUTE IN  
T9S, R20E, SECTIONS 12, 13, 14, 20, 21, AND 24  
UINTAH COUNTY, UTAH

By:

Jacki A. Montgomery

Prepared For:

Ute Indian Tribe  
Uintah and Ouray Agency

Prepared Under Contract With:

Kerr-McGee Oil & Gas Onshore LP  
1368 South 1200 East  
Vernal, Utah 84078

Prepared By:

Montgomery Archaeological Consultants, Inc.  
P.O. Box 219  
Moab, Utah 84532

MOAC Report No. 09-025

April 2, 2009

United States Department of Interior (FLPMA)  
Permit No. 08-UT-60122

Public Lands Policy Coordination Office  
Archaeological Survey Permit No. 117

**IPC #09-59**

## **Paleontological Reconnaissance Survey Report**

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**Survey of Kerr McGee's Proposed Well Pads, Multi-Well Pad,  
Access Roads, Pipeline Upgrade, and Pipelines for  
"NBU #920-12M4CS, 13C4BS & 13C1AS,  
14K & Federal #920-24O" (Sec. 13,  
14, & 24, T 9 S, R 20 E)**

**Ouray & Ouray SE  
Topographic Quadrangles  
Uintah County, Utah**

April 3, 2009

Prepared by Stephen D. Sandau  
Paleontologist for  
Intermountain Paleo-Consulting  
P. O. Box 1125  
Vernal, Utah 84078



Units

STATUS

ACTIVE

EXPLORATORY

GAS STORAGE

NP PP OIL

NP SECONDARY

PI OIL

PP GAS

PP GEOTHERMAL

PP OIL

SECONDARY

TERMINATED

Fields

STATUS

ACTIVE

COMBINED

Sections

Wells Query Events

«all other values»

GIS\_STAT\_TYPE

APD

DRL

GI

GS

LA

OPS

PA

PGW

POW

RET

SGW

SOW

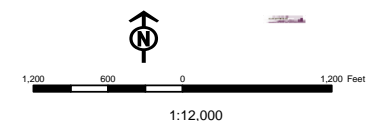
TA

TW

WD

WI

WS



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office  
P.O. Box 45155  
Salt Lake City, Utah 84145-0155

### IN REPLY REFER TO:

3160  
(UT-922)

July 2, 2009

### Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2009 Plan of Development Natural Buttes Unit Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2009 within the Natural Buttes Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-50522	NBU 920-12M4CS Sec 13	T09S R20E 0422 FNL 2135 FWL
	BHL Sec 12	T09S R20E 0240 FSL 0675 FWL
43-047-50523	NBU 920-13C1AS Sec 13	T09S R20E 0389 FNL 2156 FWL
	BHL Sec 13	T09S R20E 0170 FNL 2600 FWL
43-047-50524	NBU 920-13C4BS Sec 13	T09S R20E 0405 FNL 2146 FWL
	BHL Sec 13	T09S R20E 0920 FNL 2100 FWL
43-047-50525	NBU 920-14M1BS Sec 14	T09S R20E 0468 FSL 0637 FWL
	BHL Sec 14	T09S R20E 1220 FSL 0675 FWL
43-047-50527	NBU 920-14M3AS Sec 14	T09S R20E 0488 FSL 0633 FWL
	BHL Sec 14	T09S R20E 0590 FSL 0635 FWL
43-047-50528	NBU 921-22C1CS Sec 15	T09S R21E 0359 FSL 2133 FWL
	BHL Sec 22	T09S R21E 0446 FNL 2071 FWL
43-047-50529	NBU 921-22C4BS Sec 15	T09S R21E 0360 FSL 2153 FWL
	BHL Sec 22	T09S R21E 0812 FNL 2065 FWL
43-047-50530	NBU 921-22D1BS Sec 15	T09S R21E 0357 FSL 2093 FWL
	BHL Sec 22	T09S R21E 0226 FNL 0819 FWL
43-047-50531	NBU 921-22D1CS Sec 15	T09S R21E 0358 FSL 2113 FWL

BHL Sec 22 T09S R21E 0566 FNL 0789 FWL

This office has no objection to permitting the wells at this time.

/s/ Michael L. Coulthard

bcc: File – Natural Buttes Unit  
Division of Oil Gas and Mining  
Central Files  
Agr. Sec. Chron  
Fluid Chron

MCoulthard:mc:7-2-09

# WORKSHEET

## APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 6/29/2009

**API NO. ASSIGNED:** 43047505220000

**WELL NAME:** NBU 920-12M4CS

**OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)

**PHONE NUMBER:** 720 929-6156

**CONTACT:** Danielle Piernot

**PROPOSED LOCATION:** NENW 13 090S 200E

**Permit Tech Review:** ☒

**SURFACE:** 0422 FNL 2135 FWL

**Engineering Review:** ☒

**BOTTOM:** 0240 FSL 0675 FWL

**Geology Review:** ☒

**COUNTY:** Uintah

**LATITUDE:** 40.04158

**LONGITUDE:** -109.61640

**UTM SURF EASTINGS:** 618038.00

**NORTHINGS:** 4433079.00

**FIELD NAME:** NATURAL BUTTES

**LEASE TYPE:** 1 - Federal

**LEASE NUMBER:** UTU 0144868B

**PROPOSED PRODUCING FORMATION(S):** WASATCH-MESA VERDE

**SURFACE OWNER:** 2 - Indian

**COALBED METHANE:** NO

### RECEIVED AND/OR REVIEWED:

- ☒ **PLAT**
- ☒ **Bond:** FEDERAL - WYB000291
- ☐ **Potash**
- ☒ **Oil Shale 190-5**
- ☐ **Oil Shale 190-3**
- ☐ **Oil Shale 190-13**
- ☒ **Water Permit:** Permit #43-8496
- ☐ **RDCC Review:**
- ☐ **Fee Surface Agreement**
- ☒ **Intent to Commingle**

**Commingle Approved**

### LOCATION AND SITING:

- ☐ **R649-2-3.**
- Unit:** NATURAL BUTTES
- ☐ **R649-3-2. General**
- ☐ **R649-3-3. Exception**
- ☒ **Drilling Unit**
- Board Cause No:** Cause 173-14
- Effective Date:** 12/2/1999
- Siting:** 460' fr u bdry & uncomm. tract
- ☒ **R649-3-11. Directional Drill**

**Comments:** Presite Completed  
BHL SEC 12:

**Stipulations:** 3 - Commingle - ddoucet  
4 - Federal Approval - dmason  
15 - Directional - dmason  
17 - Oil Shale 190-5(b) - dmason





JON M. HUNTSMAN, JR.  
*Governor*

GARY R. HERBERT  
*Lieutenant Governor*

## State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

Division of Oil, Gas and Mining

JOHN R. BAZA  
*Division Director*

### Permit To Drill

\*\*\*\*\*

**Well Name:** NBU 920-12M4CS  
**API Well Number:** 43047505220000  
**Lease Number:** UTU 0144868B  
**Surface Owner:** INDIAN  
**Approval Date:** 7/16/2009

**Issued to:**

KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

**Authority:**

Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

**Duration:**

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

**Commingling:**

In accordance with Board Cause No. 173-14 commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

**General:**

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

**Conditions of Approval:**

State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

**Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well – contact Carol Daniels at 801-538-5284 (please leave a voicemail message if not available)

OR

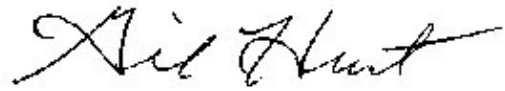
submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at <http://oilgas.ogm.utah.gov>

**Reporting Requirements:**

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) – due within 5 days of spudding the well
- Monthly Status Report (Form 9) – due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) – due prior to implementation
- Written Notice of Emergency Changes (Form 9) – due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) – due prior to implementation
- Report of Water Encountered (Form 7) – due within 30 days after completion
- Well Completion Report (Form 8) – due within 30 days after completion or plugging

**Approved By:**

A handwritten signature in black ink, appearing to read "Gil Hunt", with a stylized, flowing script.

Gil Hunt  
Associate Director, Oil & Gas

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

RECEIVED

JUN 29 2009

FORM APPROVED  
OMB No. 1004-0136  
Expires July 31, 2010

## APPLICATION FOR PERMIT TO DRILL OR REENTER

BLM

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. UTU0144868B
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator KERRMCGEE OIL&GAS ONSHORE LP		7. If Unit or CA Agreement, Name and No. 891008900A
Contact: DANIELLE E PIERNOT Email: Danielle.Piernot@anadarko.com		8. Lease Name and Well No. NBU 920-12M4CS
3a. Address PO BOX 173779 DENVER, CO 80202-3779	3b. Phone No. (include area code) Ph: 720-929-6156 Fx: 720-929-7156	9. API Well No. 43 047 50522
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NENW 422FNL 2135FWL 40.04159 N Lat, 109.61715 W Lon (Sec. 13) At proposed prod. zone SWSW 240FSL 675FWL 40.04333 N Lat, 109.62235 W Lon (Sec. 12)		10. Field and Pool, or Exploratory NATURAL BUTTES
14. Distance in miles and direction from nearest town or post office* APPROXIMATELY 12 MILES SOUTHEAST OF OURAY, UTAH		11. Sec., T., R., M., or Blk. and Survey or Area Sec 13 T9S R20E Mer SLB
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 240 FEET	16. No. of Acres in Lease 600.00	12. County or Parish UINTAH
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. APPROXIMATELY 1600 FEET	19. Proposed Depth 11017 MD 10750 TVD	13. State UT
21. Elevations (Show whether DF, KB, RT, GL, etc.) 4710 GL	22. Approximate date work will start 07/20/2009	17. Spacing Unit dedicated to this well
23. Estimated duration 60-90 DAYS		

## 24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification.
- Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature (Electronic Submission)	Name (Printed/Typed) DANIELLE E PIERNOT Ph: 720-929-6156	Date 06/29/2009
--	---	--------------------

Title  
REGULATORY ANALYST

Approved by (Signature) <i>Stephanie J Howard</i> Assistant Field Manager Lands & Mineral Resources	Name (Printed/Typed) <i>Stephanie J Howard</i> Office VERNAL FIELD OFFICE	Date 11/23/09
--	--	------------------

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached. **CONDITIONS OF APPROVAL ATTACHED**

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Additional Operator Remarks (see next page)

NOS APD Pkcd 7/2/09

Electronic Submission #71493 verified by the BLM Well Information System  
For KERRMCGEE OIL&GAS ONSHORE LP, sent to the Vernal  
Committed to AFMSS for processing by GAIL JENKINS on 07/01/2009 ()

AFMSS#

NOV 30 2009

UDOGM

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

096XJ5105AE

NOTICE OF APPROVAL

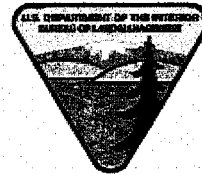


UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
VERNAL FIELD OFFICE

170 South 500 East

VERNAL, UT 84078

(435) 781-4400



**CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL**

Company: Kerr McGee Oil & Gas Onshore, LP      Location: NENW, Sec. 13, T9S, R20E(S)  
Well No: NBU 920-12M4CS      Lease No: SWSW, Sec. 12, T9S, R20E (B)  
API No: 43-047-50522      Agreement: UTU-0144868B  
Natural Buttes Unit

**OFFICE NUMBER: (435) 781-4400**  
**OFFICE FAX NUMBER: (435) 781-3420**

**A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR  
FIELD REPRESENTATIVE TO INSURE COMPLIANCE**

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. **This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.**

**NOTIFICATION REQUIREMENTS**

Construction Activity (Notify Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist)	- The Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist shall be notified at least 48 hours in advance of any construction activity. The Ute Tribal office is open Monday through Thursday.
Construction Completion (Notify Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist)	- Upon completion of the pertinent APD/ROW construction, notify the Ute Tribe Energy & Minerals Dept. for a Tribal Technician to verify the Affidavit of Completion. Notify the BLM Environmental Scientist prior to moving on the drilling rig.
Spud Notice (Notify BLM Petroleum Engineer)	- Twenty-Four (24) hours prior to spudding the well.
Casing String & Cementing (Notify BLM Supv. Petroleum Tech.)	- Twenty-Four (24) hours prior to running casing and cementing all casing strings to: <a href="mailto:ut_vn_opreport@blm.gov">ut_vn_opreport@blm.gov</a> .
BOP & Related Equipment Tests (Notify BLM Supv. Petroleum Tech.)	- Twenty-Four (24) hours prior to initiating pressure tests.
First Production Notice (Notify BLM Petroleum Engineer)	- Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.

**SURFACE USE PROGRAM  
CONDITIONS OF APPROVAL (COAs)**

**Site-Specific Conditions of Approval:**

1. Paint facilities "shadow gray."
2. Construct diversion drainages around well pad.
3. Monitor location by a permitted archaeologist during the construction process.
4. Monitor by a permitted paleontologist during construction.
5. If project construction operations are scheduled to occur after December 31, 2009, a raptor survey shall be conducted prior to construction of the proposed locations, pipelines, or access roads if construction will take place during raptor nesting season (January 1 through September 30).
6. If construction will occur in 2009, avoid an active burrowing owl nest with a ¼-mile buffer between March 1 and August 31. No avoidance buffer is recommended for inactive nests or for construction activities conducted outside of these dates.
7. If project construction operation are scheduled to occur after June 15, 2010, KMG will conduct additional biological surveys in accordance with the guidelines specified I the USFWS Rare Plant Conservation Measures for Uinta Basin hookless cactus (See Appendix D) and conduct its operation according to its specifications.

**BIA Standard Conditions of Approval:**

1. Soil erosion will be mitigated by reseeding all disturbed areas.
2. The gathering pipelines will be constructed to lie on the surface. The surface pipelines will not be bladed or cleared of vegetation. Where pipelines are constructed parallel to roads they may be welded on the road and then lifted from the road onto the right-of-way. Where pipelines do not parallel roads but cross-country between sites, they shall be welded in place at well sites or on access roads and then pulled between stations with a suitable piece of equipment. Traffic will be restricted along these areas so that the pipeline right-of-way will not be used as an access road.
3. An open drilling system shall be used, unless otherwise specified in 10.0 Additional Stipulations of this document and in the Application for Permit to Drill. A closed drilling system shall be sued in all flood plain areas, and other highly sensitive areas, recommended by the Ute Tribe Technician, BIA, and other agencies involved.
4. The reserve pit shall be lined with a synthetic leak proof liner. After the drilling operation is complete, excess fluids shall be removed from the reserve pit and either hauled to an approved disposal site or shall be used to drill other wells. When the fluids are removed the pit shall be backfilled a minimum of 3.0' below the soil surface elevation.
5. A closed production system shall be used. This means all produced water and oil field fluid wastes shall be contained in leak proof tanks. These fluids shall be disposed of in either approved injection wells or disposal pits.
6. Major low water crossings will be armored with pit run material to protect them from erosion.
7. All personnel shall refrain from collecting any paleontological fossils and from disturbing any fossil resources in the area.
8. If fossils are exposed or identified during construction, all construction must cease and immediate notification to the Energy and Minerals Department and the Cultural Rights Protection Officer.

9. Before the site is abandoned the company will be required to restore the right-of-way to near its original state. The disturbed area will be reseeded with desirable perennial vegetation. If necessary, the Bureau of Indian Affairs or Bureau of Land Management will provide a suitable seed mixture.
10. Noxious weeds will be controlled on all surface disturbances within the project area. If noxious weeds spread from the project area onto adjoining land, the company will also be responsible for their control.
11. If project construction operations are scheduled to occur after December 31, 2009, KMG shall conduct annual raptor surveys in accordance with the guidelines specified in the Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances, 2002 (See Appendix E) and conduct its operations according to applicable seasonal restrictions and spatial offsets.
12. USFWS threatened and endangered plant and animal conservation measures will be followed, as appropriate to the species identified by the biological resource survey (See Appendix E).
13. All personnel shall refrain from collecting artifacts and from disturbing any significant cultural resources in the area.
14. If artifacts or any culturally sensitive materials are exposed or identified during construction, all construction must cease and immediate notification to the Energy and Minerals Department and the Cultural Rights Protection Officer.

**DOWNHOLE PROGRAM  
CONDITIONS OF APPROVAL (COAs)**

**SITE SPECIFIC DOWNHOLE COAs:**

- A copy of Kerr McGee's Standard Operating Practices (SOP version: dated 7/17/08 and approved 7/28/08) shall be on location.

**All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to.** The following items are emphasized:

**DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS**

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a test pump with a chart recorder and **NOT** by the rig pumps. Test shall be reported in the driller's log.
- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- **Cement baskets shall not be run on surface casing.**
- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal Field Office.

- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.
- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.
- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- **Please submit an electronic copy of all other logs run on this well in LAS format to UT\_VN\_Wellogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.**
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.



## **OPERATING REQUIREMENT REMINDERS:**

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.
- In accordance with 43 CFR 3162.4-3, this well shall be reported on the "Monthly Report of Operations" (Oil and Gas Operations Report ((OGOR)) starting with the month in which operations commence and continue each month until the well is physically plugged and abandoned. This report shall be filed in duplicate, directly with the Minerals Management Service, P.O. Box 17110, Denver, Colorado 80217-0110, or call 1-800-525-7922 (303) 231-3650 for reporting information.
- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:
  - Operator name, address, and telephone number.
  - Well name and number.
  - Well location (¼, Sec., Twn, Rng, and P.M.).
  - Date well was placed in a producing status (date of first production for which royalty will be paid).
  - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
  - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
  - Unit agreement and/or participating area name and number, if applicable.
  - Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.

- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs, core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.
- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.
- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office Petroleum Engineers will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports shall be submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall be identified as the point of sale or allocation for royalty purposes.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.
- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover equipment shall be removed from a well to be placed in a suspended status without prior approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior approval of the BLM Vernal Field Office shall be obtained and notification given before resumption of operations.
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.

- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

API Well No: 43047505220000

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>			
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0144868B			
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute Tr			
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES			
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 920-12M4CS			
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0422 FNL 2135 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 13 Township: 09.0S Range: 20.0E Meridian: S		<b>9. API NUMBER:</b> 43047505220000			
<b>PHONE NUMBER:</b> 720 929-6007 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES			
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH			
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>					
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>				
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 1/25/2010  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<table style="width:100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ACIDIZE  <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input checked="" type="checkbox"/> OTHER         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION            OTHER: BHL Change         </td> </tr> </table>		<input type="checkbox"/> ACIDIZE <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input checked="" type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: BHL Change
<input type="checkbox"/> ACIDIZE <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input checked="" type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: BHL Change			
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests to change the well name and bottom hole location of this well due to additional geological information. The well name is changing FROM: NBU 920-12M4CS TO: NBU 920-13D2DS and the BHL is changing FROM: 240' FSL 675' FWL, Section 12 T9S R20E TO: 518' FNL 450' FWL, Section 13 T9S R20E. Please see the attached revised survey plat and drilling details for additional information. There will be no additional surface disturbance. Please contact the undersigned with any questions and/or comments. Thank you.					
January 28, 2010 					
<b>NAME (PLEASE PRINT)</b> Danielle Piernot	<b>PHONE NUMBER</b> 720 929-6156	<b>TITLE</b> Regulatory Analyst			
<b>SIGNATURE</b> N/A	<b>DATE</b> 1/21/2010				







Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
DENVER, CO 80217-3779

January 20, 2010

Ms. Diana Mason  
Division of Oil, Gas and Mining  
P.O. Box 145801  
Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11  
NBU 920-13D2DS  
T9S-R20E  
Section 13: NENW (Surf) NWNW (BH)  
Surface: 422' FNL, 2135' FWL  
Bottom Hole: 518' FNL, 450' FWL  
Uintah County, Utah

Dear Ms. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling.

- Kerr-McGee's NBU 920-13D2DS is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

Therefore, based on the above stated information, Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

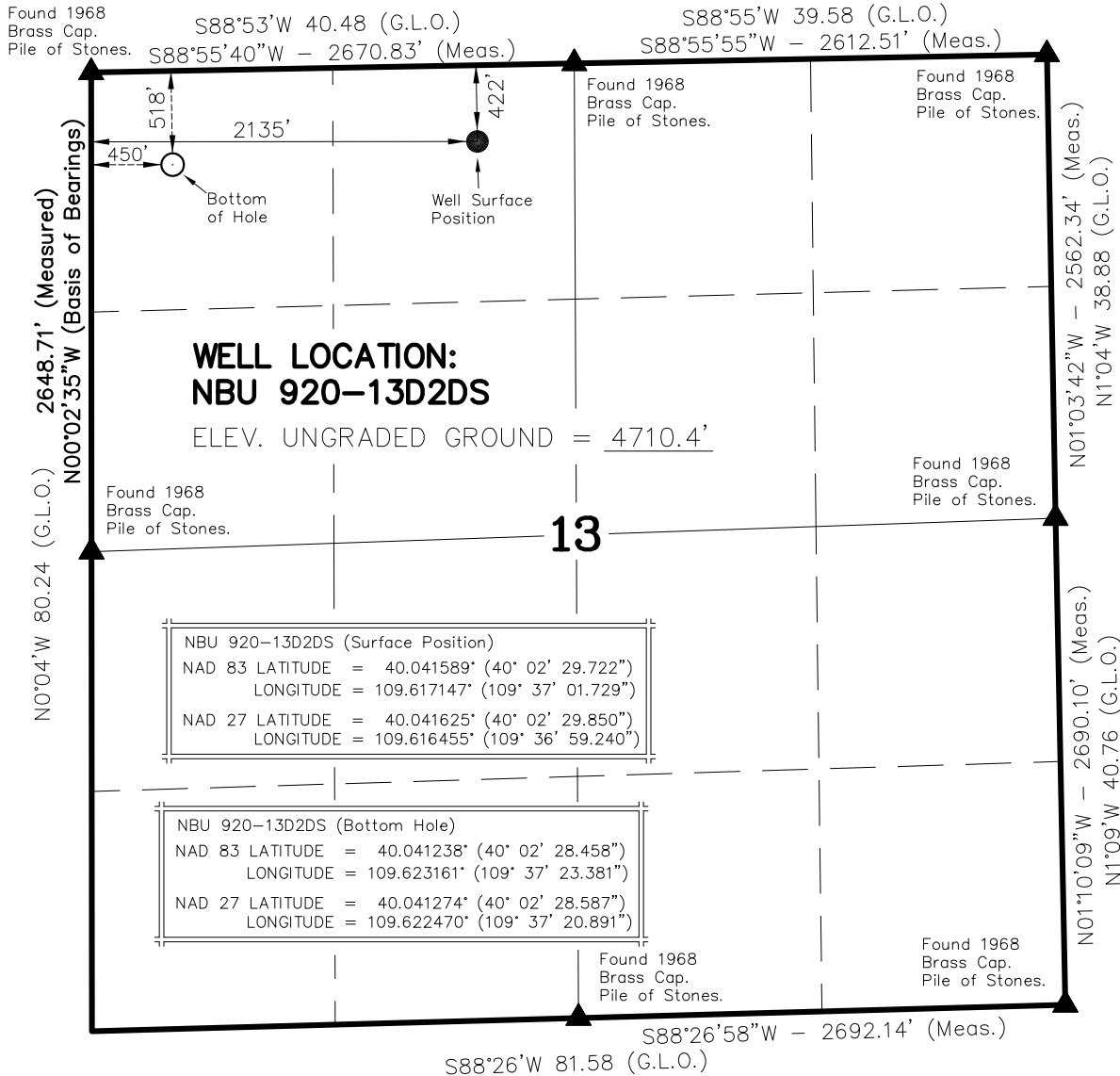
Sincerely,  
**KERR-MCGEE OIL & GAS ONSHORE LP**

January 28, 2010  
A handwritten signature in black ink, appearing to read 'B. McGill', is written over the date.

Lynn Padgett  
Staff Landman

enclosures

# T9S, R20E, S.L.B.&M.



## NOTES:

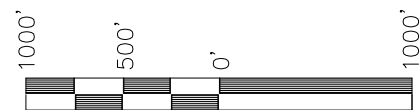
- ▲ = Section Corners Located
- 1. Well footages are measured at right angles to the Section Lines.
- 2. G.L.O. distances are shown in feet or chains. 1 chain = 66 feet.
- 3. The Bottom of hole bears S85°39'24\"W 1689.28' from the Surface Position.
- 4. Bearings are based on Global Positioning Satellite observations.
- 5. Basis of elevation is the Northwest Corner of Section 12, T9S, R20E, S.L.B.&M. The elevation of this Section Corner is shown on the Ouray SE 7.5 Min. Quadrangle as being 4676'.

**Kerr-McGee**  
Oil & Gas Onshore, LP

1099 18th Street - Denver, Colorado 80202

**NBU 920-13D2DS**  
**WELL PLAT**  
518' FNL, 450' FWL (Bottom Hole)  
NW  $\frac{1}{4}$  NW  $\frac{1}{4}$  OF SECTION 13, T9S, R20E,  
S.L.B.&M. UTAH COUNTY, UTAH.

CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182



SCALE

## SURVEYOR'S CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR  
REGISTRATION No. 362251  
STATE OF UTAH

**TIMBERLINE**

(435) 789-1365

ENGINEERING & LAND SURVEYING, INC.

209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 01-02-09	SURVEYED BY: M.S.B.	SHEET <b>1</b> OF 12
DATE DRAWN: 03-19-09	DRAWN BY: M.W.W.	
SCALE: 1" = 1000'	Date Last Revised: 10-30-09	

**RECEIVED** January 21, 2010





# **ANADARKO PETROLEUM CORP.**

**UINTAH COUNTY, UTAH (nad 27)**

**NBU 920-13C PAD**

**NBU 920-13D2DS**

**NBU 920-13D2DS**

**Plan: PLAN #1 1-19-10 RHS**

## **Standard Planning Report**

**19 January, 2010**





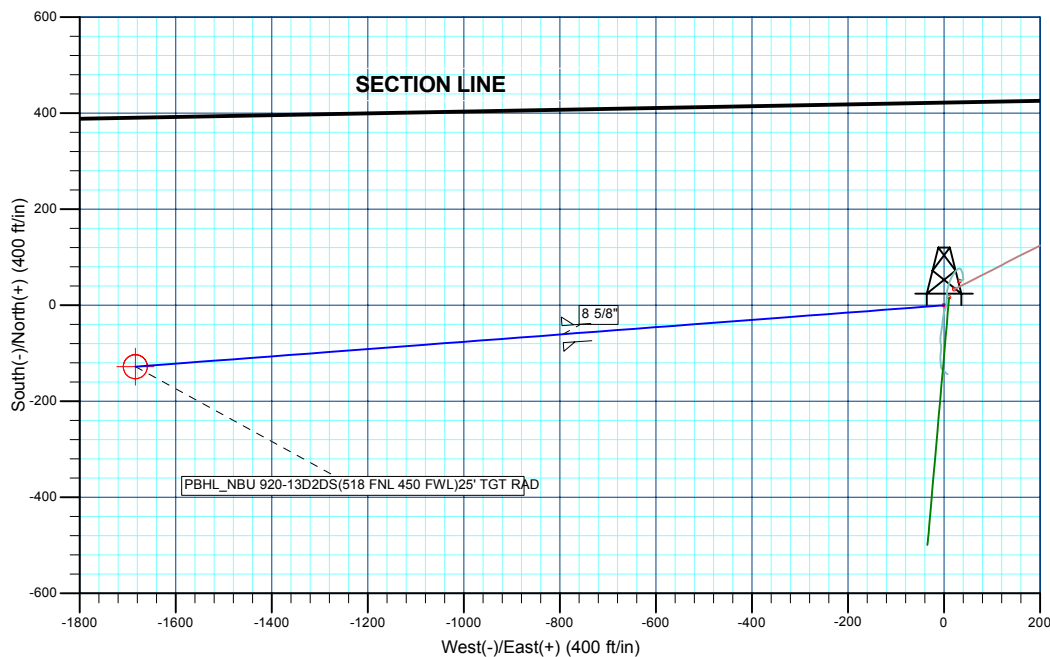
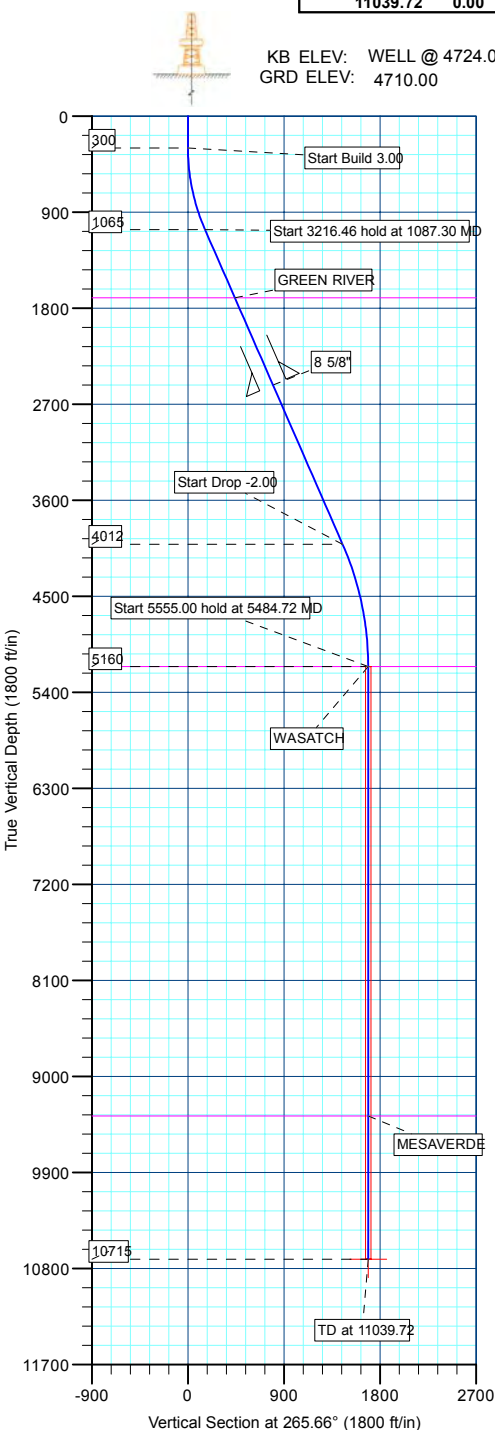
WELL DETAILS: NBU 920-13D2DS						
+N/-S	+E/-W	Northing	Ground Level: Easting	4710.00 Latitude	Longitude	Slot
0.00	0.00	14544209.76	2027661.13	40° 2' 29.850 N	109° 36' 59.238 W	

WELLBORE TARGET DETAILS (LAT/LONG)						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PBHL	10715.00	-127.78	-1683.83	40° 2' 28.586 N 109° 37' 20.892 W		Circle (Radius: 25.00)

SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
1087.30	23.62	265.66	1065.20	-12.11	-159.53	3.00	265.66	159.99	
4303.76	23.62	265.66	4012.21	-109.62	-1444.53	0.00	0.00	1448.68	
5484.72	0.00	0.00	5160.00	-127.78	-1683.83	2.00	180.00	1688.67	
11039.72	0.00	0.00	10715.00	-127.78	-1683.83	0.00	0.00	1688.67	PBHL_NBU 920-13D2DS(518 FNL 450 FWL)25' TGT RAD

KB ELEV: WELL @ 4724.00ft (Original Well Elev)  
 GRD ELEV: 4710.00

CASING DETAILS			
TVD	MD	Name	Size
2520.00	2675.12	8 5/8"	8.62



FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1704.00	1784.52	GREEN RIVER
5160.00	5484.72	WASATCH
9371.00	9695.72	MESAVERDE

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well NBU 920-13D2DS
<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>TVD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>MD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Site:</b>	NBU 920-13C PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 920-13D2DS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	NBU 920-13D2DS		
<b>Design:</b>	PLAN #1 1-19-10 RHS		

<b>Project</b>	UINTAH COUNTY, UTAH (nad 27),		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Fee	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

Site						NBU 920-13C PAD, SECTION 13 T9S R20E											
Site Position:						Northing:			14,544,243.61 ft			Latitude:			40° 2' 30.181 N		
From:			Lat/Long			Easting:			2,027,682.45ft			Longitude:			109° 36' 58.957 W		
Position Uncertainty:			0.00 ft			Slot Radius:			in			Grid Convergence:			0.89 °		

Well	NBU 920-13D2DS					
Well Position	+N/-S	-33.51 ft	Northing:	14,544,209.76 ft	Latitude:	40° 2' 29.850 N
	+E/-W	-21.84 ft	Easting:	2,027,661.13 ft	Longitude:	109° 36' 59.238 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,710.00 ft

<b>Wellbore</b>	NBU 920-13D2DS				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	BGGM2009	1/19/2010	11.34	65.93	52,488

<b>Design</b>	PLAN #1 1-19-10 RHS			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	265.66

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,087.30	23.62	265.66	1,065.20	-12.11	-159.53	3.00	3.00	0.00	265.66	
4,303.76	23.62	265.66	4,012.21	-109.62	-1,444.53	0.00	0.00	0.00	0.00	
5,484.72	0.00	0.00	5,160.00	-127.78	-1,683.83	2.00	-2.00	0.00	180.00	
11,039.72	0.00	0.00	10,715.00	-127.78	-1,683.83	0.00	0.00	0.00	0.00	PBHL_NBU 920-13

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well NBU 920-13D2DS
<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>TVD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>MD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Site:</b>	NBU 920-13C PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 920-13D2DS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	NBU 920-13D2DS		
<b>Design:</b>	PLAN #1 1-19-10 RHS		

**Planned Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
<b>Start Build 3.00</b>									
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	3.00	265.66	399.95	-0.20	-2.61	2.62	3.00	3.00	0.00
500.00	6.00	265.66	499.63	-0.79	-10.43	10.46	3.00	3.00	0.00
600.00	9.00	265.66	598.77	-1.78	-23.45	23.51	3.00	3.00	0.00
700.00	12.00	265.66	697.08	-3.16	-41.62	41.74	3.00	3.00	0.00
800.00	15.00	265.66	794.31	-4.92	-64.89	65.08	3.00	3.00	0.00
900.00	18.00	265.66	890.18	-7.07	-93.21	93.48	3.00	3.00	0.00
1,000.00	21.00	265.66	984.43	-9.60	-126.49	126.85	3.00	3.00	0.00
<b>Start 3216.46 hold at 1087.30 MD</b>									
1,087.30	23.62	265.66	1,065.20	-12.11	-159.53	159.99	3.00	3.00	0.00
1,100.00	23.62	265.66	1,076.83	-12.49	-164.60	165.08	0.00	0.00	0.00
1,200.00	23.62	265.66	1,168.45	-15.52	-204.55	205.14	0.00	0.00	0.00
1,300.00	23.62	265.66	1,260.07	-18.55	-244.51	245.21	0.00	0.00	0.00
1,400.00	23.62	265.66	1,351.70	-21.59	-284.46	285.27	0.00	0.00	0.00
1,500.00	23.62	265.66	1,443.32	-24.62	-324.41	325.34	0.00	0.00	0.00
1,600.00	23.62	265.66	1,534.94	-27.65	-364.36	365.40	0.00	0.00	0.00
1,700.00	23.62	265.66	1,626.56	-30.68	-404.31	405.47	0.00	0.00	0.00
<b>GREEN RIVER</b>									
1,784.52	23.62	265.66	1,704.00	-33.24	-438.07	439.33	0.00	0.00	0.00
1,800.00	23.62	265.66	1,718.19	-33.71	-444.26	445.54	0.00	0.00	0.00
1,900.00	23.62	265.66	1,809.81	-36.74	-484.21	485.60	0.00	0.00	0.00
2,000.00	23.62	265.66	1,901.43	-39.78	-524.16	525.67	0.00	0.00	0.00
2,100.00	23.62	265.66	1,993.06	-42.81	-564.11	565.73	0.00	0.00	0.00
2,200.00	23.62	265.66	2,084.68	-45.84	-604.06	605.80	0.00	0.00	0.00
2,300.00	23.62	265.66	2,176.30	-48.87	-644.01	645.86	0.00	0.00	0.00
2,400.00	23.62	265.66	2,267.92	-51.90	-683.96	685.93	0.00	0.00	0.00
2,500.00	23.62	265.66	2,359.55	-54.93	-723.91	725.99	0.00	0.00	0.00
2,600.00	23.62	265.66	2,451.17	-57.97	-763.86	766.06	0.00	0.00	0.00
<b>8 5/8"</b>									
2,675.12	23.62	265.66	2,520.00	-60.24	-793.88	796.16	0.00	0.00	0.00
2,700.00	23.62	265.66	2,542.79	-61.00	-803.81	806.13	0.00	0.00	0.00
2,800.00	23.62	265.66	2,634.42	-64.03	-843.77	846.19	0.00	0.00	0.00
2,900.00	23.62	265.66	2,726.04	-67.06	-883.72	886.26	0.00	0.00	0.00
3,000.00	23.62	265.66	2,817.66	-70.09	-923.67	926.32	0.00	0.00	0.00
3,100.00	23.62	265.66	2,909.28	-73.12	-963.62	966.39	0.00	0.00	0.00
3,200.00	23.62	265.66	3,000.91	-76.15	-1,003.57	1,006.45	0.00	0.00	0.00
3,300.00	23.62	265.66	3,092.53	-79.19	-1,043.52	1,046.52	0.00	0.00	0.00
3,400.00	23.62	265.66	3,184.15	-82.22	-1,083.47	1,086.58	0.00	0.00	0.00
3,500.00	23.62	265.66	3,275.78	-85.25	-1,123.42	1,126.65	0.00	0.00	0.00
3,600.00	23.62	265.66	3,367.40	-88.28	-1,163.37	1,166.72	0.00	0.00	0.00
3,700.00	23.62	265.66	3,459.02	-91.31	-1,203.32	1,206.78	0.00	0.00	0.00
3,800.00	23.62	265.66	3,550.64	-94.34	-1,243.27	1,246.85	0.00	0.00	0.00
3,900.00	23.62	265.66	3,642.27	-97.38	-1,283.22	1,286.91	0.00	0.00	0.00
4,000.00	23.62	265.66	3,733.89	-100.41	-1,323.17	1,326.98	0.00	0.00	0.00
4,100.00	23.62	265.66	3,825.51	-103.44	-1,363.12	1,367.04	0.00	0.00	0.00
4,200.00	23.62	265.66	3,917.14	-106.47	-1,403.07	1,407.11	0.00	0.00	0.00
4,300.00	23.62	265.66	4,008.76	-109.50	-1,443.03	1,447.17	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
4,303.76	23.62	265.66	4,012.21	-109.62	-1,444.53	1,448.68	0.00	0.00	0.00
4,400.00	21.69	265.66	4,101.01	-112.42	-1,481.49	1,485.75	2.00	-2.00	0.00
4,500.00	19.69	265.66	4,194.56	-115.10	-1,516.73	1,521.09	2.00	-2.00	0.00
4,600.00	17.69	265.66	4,289.28	-117.52	-1,548.69	1,553.14	2.00	-2.00	0.00

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well NBU 920-13D2DS
<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>TVD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>MD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Site:</b>	NBU 920-13C PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 920-13D2DS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	NBU 920-13D2DS		
<b>Design:</b>	PLAN #1 1-19-10 RHS		

**Planned Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,700.00	15.69	265.66	4,385.06	-119.69	-1,577.33	1,581.86	2.00	-2.00	0.00
4,800.00	13.69	265.66	4,481.78	-121.61	-1,602.62	1,607.23	2.00	-2.00	0.00
4,900.00	11.69	265.66	4,579.33	-123.28	-1,624.53	1,629.20	2.00	-2.00	0.00
5,000.00	9.69	265.66	4,677.59	-124.68	-1,643.03	1,647.76	2.00	-2.00	0.00
5,100.00	7.69	265.66	4,776.43	-125.82	-1,658.11	1,662.87	2.00	-2.00	0.00
5,200.00	5.69	265.66	4,875.75	-126.71	-1,669.73	1,674.53	2.00	-2.00	0.00
5,300.00	3.69	265.66	4,975.41	-127.33	-1,677.89	1,682.71	2.00	-2.00	0.00
5,400.00	1.69	265.66	5,075.29	-127.68	-1,682.58	1,687.42	2.00	-2.00	0.00
<b>Start 5555.00 hold at 5484.72 MD - WASATCH</b>									
5,484.72	0.00	0.00	5,160.00	-127.78	-1,683.83	1,688.67	2.00	-2.00	0.00
5,500.00	0.00	0.00	5,175.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
5,600.00	0.00	0.00	5,275.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
5,700.00	0.00	0.00	5,375.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
5,800.00	0.00	0.00	5,475.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
5,900.00	0.00	0.00	5,575.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
6,000.00	0.00	0.00	5,675.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
6,100.00	0.00	0.00	5,775.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
6,200.00	0.00	0.00	5,875.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
6,300.00	0.00	0.00	5,975.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
6,400.00	0.00	0.00	6,075.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
6,500.00	0.00	0.00	6,175.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
6,600.00	0.00	0.00	6,275.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
6,700.00	0.00	0.00	6,375.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
6,800.00	0.00	0.00	6,475.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
6,900.00	0.00	0.00	6,575.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
7,000.00	0.00	0.00	6,675.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
7,100.00	0.00	0.00	6,775.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
7,200.00	0.00	0.00	6,875.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
7,300.00	0.00	0.00	6,975.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
7,400.00	0.00	0.00	7,075.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
7,500.00	0.00	0.00	7,175.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
7,600.00	0.00	0.00	7,275.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
7,700.00	0.00	0.00	7,375.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
7,800.00	0.00	0.00	7,475.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
7,900.00	0.00	0.00	7,575.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
8,000.00	0.00	0.00	7,675.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
8,100.00	0.00	0.00	7,775.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
8,200.00	0.00	0.00	7,875.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
8,300.00	0.00	0.00	7,975.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
8,400.00	0.00	0.00	8,075.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
8,500.00	0.00	0.00	8,175.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
8,600.00	0.00	0.00	8,275.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
8,700.00	0.00	0.00	8,375.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
8,800.00	0.00	0.00	8,475.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
8,900.00	0.00	0.00	8,575.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
9,000.00	0.00	0.00	8,675.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
9,100.00	0.00	0.00	8,775.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
9,200.00	0.00	0.00	8,875.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
9,300.00	0.00	0.00	8,975.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
9,400.00	0.00	0.00	9,075.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
9,500.00	0.00	0.00	9,175.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
9,600.00	0.00	0.00	9,275.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00
<b>MESAVERDE</b>									
9,695.72	0.00	0.00	9,371.00	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well NBU 920-13D2DS
<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>TVD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>MD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Site:</b>	NBU 920-13C PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 920-13D2DS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	NBU 920-13D2DS		
<b>Design:</b>	PLAN #1 1-19-10 RHS		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
9,700.00	0.00	0.00	9,375.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00	
9,800.00	0.00	0.00	9,475.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00	
9,900.00	0.00	0.00	9,575.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00	
10,000.00	0.00	0.00	9,675.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00	
10,100.00	0.00	0.00	9,775.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00	
10,200.00	0.00	0.00	9,875.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00	
10,300.00	0.00	0.00	9,975.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00	
10,400.00	0.00	0.00	10,075.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00	
10,500.00	0.00	0.00	10,175.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00	
10,600.00	0.00	0.00	10,275.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00	
10,700.00	0.00	0.00	10,375.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00	
10,800.00	0.00	0.00	10,475.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00	
10,900.00	0.00	0.00	10,575.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00	
11,000.00	0.00	0.00	10,675.28	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00	
<b>TD at 11039.72 - PBHL_NBU 920-13D2DS(518 FNL 450 FWL)25' TGT RAD</b>										
11,039.72	0.00	0.00	10,715.00	-127.78	-1,683.83	1,688.67	0.00	0.00	0.00	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude	
- hit/miss target										
- Shape										
PBHL_NBU 920-13D2DS	0.00	0.00	10,715.00	-127.78	-1,683.83	14,544,055.84	2,025,979.50	40° 2' 28.586 N	109° 37' 20.892 W	
- plan hits target center										
- Circle (radius 25.00)										

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
2,675.12	2,520.00	8 5/8"	8.62	12.25	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,784.52	1,704.00	GREEN RIVER			
5,484.72	5,160.00	WASATCH			
9,695.72	9,371.00	MESAVERDE			

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well NBU 920-13D2DS
<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>TVD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>MD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Site:</b>	NBU 920-13C PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 920-13D2DS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	NBU 920-13D2DS		
<b>Design:</b>	PLAN #1 1-19-10 RHS		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
300.00	300.00	0.00	0.00	Start Build 3.00
1,087.30	1,065.20	-12.11	-159.53	Start 3216.46 hold at 1087.30 MD
4,303.76	4,012.21	-109.62	-1,444.53	Start Drop -2.00
5,484.72	5,160.00	-127.78	-1,683.83	Start 5555.00 hold at 5484.72 MD
11,039.72	10,715.00	-127.78	-1,683.83	TD at 11039.72



# **ANADARKO PETROLEUM CORP.**

**UINTAH COUNTY, UTAH (nad 27)  
NBU 920-13C PAD  
NBU 920-13D2DS**

**NBU 920-13D2DS  
PLAN #1 1-19-10 RHS**

## **Anticollision Report**

**19 January, 2010**



<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well NBU 920-13D2DS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Reference Site:</b>	NBU 920-13C PAD	<b>MD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	NBU 920-13D2DS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	NBU 920-13D2DS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-19-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	PLAN #1 1-19-10 RHS		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	Stations	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	0.00 to 20,000.00ft	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 10,000.00ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma		

<b>Survey Tool Program</b>	<b>Date</b> 1/19/2010			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.00	11,039.72	PLAN #1 1-19-10 RHS (NBU 920-13D2DS	MWD	MWD - Standard

<b>Summary</b>						
<b>Site Name</b>	<b>Reference Measured Depth (ft)</b>	<b>Offset Measured Depth (ft)</b>	<b>Distance Between Centres (ft)</b>	<b>Distance Between Ellipses (ft)</b>	<b>Separation Factor</b>	<b>Warning</b>
<b>Offset Well - Wellbore - Design</b>						
NBU 920-13C PAD						
NBU 920-13C EXISTING - NBU 920-13C EXISTING - NE	100.00	85.89	60.07	59.86	285.100	CC
NBU 920-13C EXISTING - NBU 920-13C EXISTING - NE	300.00	285.68	60.55	59.53	59.508	ES
NBU 920-13C EXISTING - NBU 920-13C EXISTING - NE	700.00	681.96	94.68	91.76	32.413	SF
NBU 920-13C1AS - NBU 920-13C1AS - PLAN #1 1-19-1	300.00	300.00	39.99	38.90	36.612	CC, ES
NBU 920-13C1AS - NBU 920-13C1AS - PLAN #1 1-19-1	600.00	598.77	57.41	54.95	23.352	SF
NBU 920-13C4BS - NBU 920-13C4BS - PLAN #1 1-19-1	300.00	300.00	20.00	18.90	18.306	CC, ES
NBU 920-13C4BS - NBU 920-13C4BS - PLAN #1 1-19-1	500.00	499.63	27.63	25.65	13.897	SF

<b>Offset Design</b>	NBU 920-13C PAD - NBU 920-13C EXISTING - NBU 920-13C EXISTING - NBU 920-13C EXISTING											<b>Offset Site Error:</b>	0.00 ft
<b>Survey Program:</b>	100-NS-GYRO-MS											<b>Offset Well Error:</b>	0.00 ft
<b>Reference</b>	<b>Offset</b>	<b>Semi Major Axis</b>		<b>Distance</b>				<b>Warning</b>					
<b>Measured Depth (ft)</b>	<b>Vertical Depth (ft)</b>	<b>Measured Depth (ft)</b>	<b>Vertical Depth (ft)</b>	<b>Reference (ft)</b>	<b>Offset (ft)</b>	<b>Highside Toolface (°)</b>	<b>Offset Wellbore Centre +N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Between Centres (ft)</b>	<b>Between Ellipses (ft)</b>	<b>Minimum Separation (ft)</b>	<b>Separation Factor</b>	
0.00	0.00	0.00	0.00	0.00	0.00	33.09	50.26	32.75	61.60				
100.00	100.00	85.89	85.89	0.10	0.11	32.96	50.40	32.68	60.07	59.86	0.21	285.100	CC
200.00	200.00	185.92	185.92	0.32	0.28	32.88	50.60	32.71	60.25	59.65	0.60	100.504	
300.00	300.00	285.68	285.68	0.55	0.47	33.34	50.58	33.28	60.55	59.53	1.02	59.508	ES
400.00	399.95	385.67	385.67	0.76	0.71	129.88	50.82	33.90	62.73	61.26	1.47	42.678	
500.00	499.63	485.41	485.40	0.99	0.95	134.87	51.08	34.19	68.42	66.49	1.94	35.359	
600.00	598.77	584.23	584.22	1.27	1.20	141.66	51.18	34.76	78.70	76.28	2.42	32.502	
700.00	697.08	681.96	681.95	1.61	1.45	148.46	51.48	35.71	94.68	91.76	2.92	32.413	SF
800.00	794.31	779.21	779.19	2.05	1.71	154.29	51.93	36.74	116.46	113.03	3.42	34.023	
900.00	890.18	875.56	875.54	2.59	1.95	158.99	52.12	37.41	143.41	139.50	3.90	36.726	
1,000.00	984.43	969.86	969.84	3.23	2.17	162.68	52.00	37.81	175.46	171.10	4.37	40.163	
1,087.30	1,065.20	1,049.99	1,049.96	3.88	2.36	165.15	51.97	38.18	207.84	203.06	4.78	43.523	
1,100.00	1,076.83	1,061.48	1,061.45	3.98	2.39	165.50	52.00	38.24	212.86	208.02	4.84	43.968	
1,200.00	1,168.45	1,152.35	1,152.32	4.80	2.62	167.71	52.40	38.87	252.74	247.36	5.37	47.056	
1,300.00	1,260.07	1,244.35	1,244.32	5.62	2.86	169.35	52.73	39.54	292.86	286.95	5.91	49.585	
1,400.00	1,351.70	1,336.42	1,336.39	6.46	3.08	170.58	53.11	39.82	332.77	326.34	6.44	51.695	
1,500.00	1,443.32	1,427.60	1,427.56	7.30	3.28	171.49	53.74	40.16	372.90	365.94	6.96	53.571	
1,600.00	1,534.94	1,520.42	1,520.38	8.15	3.47	172.16	54.81	40.17	412.85	405.37	7.47	55.236	
1,700.00	1,626.56	1,611.35	1,611.29	9.00	3.64	172.62	56.51	40.04	452.83	444.85	7.98	56.770	
1,800.00	1,718.19	1,703.49	1,703.41	9.85	3.82	172.96	58.51	39.85	492.82	484.33	8.49	58.035	
1,900.00	1,809.81	1,793.04	1,792.93	10.70	4.00	173.21	60.84	39.73	532.96	523.95	9.01	59.123	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well NBU 920-13D2DS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Reference Site:</b>	NBU 920-13C PAD	<b>MD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	NBU 920-13D2DS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	NBU 920-13D2DS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-19-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NBU 920-13C PAD - NBU 920-13C EXISTING - NBU 920-13C EXISTING - NBU 920-13C EXISTING												Offset Site Error:	0.00 ft
Survey Program: 100-NS-GYRO-MS												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,000.00	1,901.43	1,889.47	1,889.31	11.55	4.20	173.37	63.89	39.32	572.94	563.39	9.55	59.997	
2,100.00	1,993.06	1,979.07	1,978.86	12.41	4.38	173.49	66.78	38.59	612.58	602.50	10.07	60.807	
2,200.00	2,084.68	2,073.91	2,073.67	13.27	4.57	173.65	69.35	38.03	652.35	641.74	10.61	61.512	
2,300.00	2,176.30	2,167.87	2,167.60	14.12	4.75	173.84	71.29	37.04	691.59	680.46	11.13	62.162	
2,400.00	2,267.92	2,257.25	2,256.96	14.98	4.93	173.99	73.23	36.08	730.85	719.20	11.65	62.747	
2,500.00	2,359.55	2,348.56	2,348.25	15.84	5.12	174.17	74.82	35.58	770.50	758.32	12.18	63.261	
2,600.00	2,451.17	2,445.82	2,445.50	16.70	5.30	174.35	76.22	34.72	809.82	797.12	12.70	63.751	
2,700.00	2,542.79	2,542.93	2,542.59	17.56	5.43	174.57	76.81	33.23	848.42	835.25	13.18	64.396	
2,800.00	2,634.42	2,636.16	2,635.81	18.42	5.52	174.82	76.60	31.65	886.77	873.16	13.61	65.163	
2,900.00	2,726.04	2,729.65	2,729.28	19.27	5.59	175.04	76.39	30.02	925.09	911.05	14.04	65.905	
3,000.00	2,817.66	2,825.86	2,825.47	20.13	5.67	175.32	75.10	28.21	963.13	948.67	14.46	66.625	
3,100.00	2,909.28	2,920.22	2,919.78	20.99	5.73	175.61	73.22	26.18	1,000.86	985.99	14.86	67.332	
3,200.00	3,000.91	3,009.60	3,009.13	21.85	5.79	175.88	71.14	24.44	1,038.74	1,023.46	15.28	67.994	
3,300.00	3,092.53	3,104.43	3,103.90	22.71	5.87	176.16	68.73	22.63	1,076.66	1,060.95	15.70	68.564	
3,400.00	3,184.15	3,199.42	3,198.84	23.57	5.95	176.42	66.23	20.60	1,114.38	1,098.25	16.13	69.083	
3,500.00	3,275.78	3,293.17	3,292.53	24.43	6.04	176.68	63.39	18.50	1,151.96	1,135.39	16.57	69.505	
3,600.00	3,367.40	3,386.92	3,386.18	25.29	6.14	176.96	59.85	16.39	1,189.48	1,172.46	17.02	69.899	
3,700.00	3,459.02	3,476.40	3,475.56	26.16	6.24	177.24	55.96	14.48	1,227.06	1,209.59	17.47	70.252	
3,800.00	3,550.64	3,564.94	3,563.98	27.02	6.34	177.52	51.79	12.91	1,264.95	1,247.03	17.92	70.598	
3,900.00	3,642.27	3,656.31	3,655.23	27.88	6.46	177.80	47.23	11.53	1,303.08	1,284.70	18.38	70.895	
4,000.00	3,733.89	3,749.72	3,748.51	28.74	6.58	178.07	42.56	10.07	1,341.19	1,322.34	18.85	71.143	
4,100.00	3,825.51	3,840.31	3,838.98	29.60	6.71	178.32	38.09	8.61	1,379.29	1,359.96	19.33	71.365	
4,200.00	3,917.14	3,927.37	3,925.94	30.46	6.83	178.54	34.02	7.45	1,417.68	1,397.88	19.81	71.580	
4,303.76	4,012.21	4,017.13	4,015.61	31.35	6.97	178.74	30.09	6.56	1,457.90	1,437.60	20.30	71.804	
4,400.00	4,101.01	4,099.45	4,097.85	32.07	7.10	178.93	26.56	6.10	1,494.11	1,473.27	20.84	71.696	
4,500.00	4,194.56	4,185.82	4,184.14	32.68	7.24	179.11	22.82	6.03	1,529.00	1,507.65	21.35	71.626	
4,600.00	4,289.28	4,283.53	4,281.74	33.23	7.40	179.31	18.33	6.16	1,560.79	1,538.94	21.84	71.455	
4,700.00	4,385.06	4,384.49	4,382.57	33.72	7.58	179.53	13.05	6.04	1,588.97	1,566.66	22.31	71.229	
4,800.00	4,481.78	4,482.38	4,480.31	34.15	7.75	179.74	7.59	5.73	1,613.58	1,590.85	22.74	70.966	
4,900.00	4,579.33	4,580.37	4,578.16	34.53	7.93	179.93	2.33	5.38	1,634.80	1,611.67	23.13	70.682	
5,000.00	4,677.59	4,688.89	4,686.53	34.86	8.14	-179.88	-3.18	4.68	1,652.34	1,628.84	23.51	70.291	
5,100.00	4,776.43	4,800.00	4,797.51	35.13	8.35	-179.70	-8.35	3.08	1,665.71	1,641.86	23.85	69.840	
5,200.00	4,875.75	4,896.33	4,893.73	35.34	8.54	-179.57	-12.55	1.42	1,675.35	1,651.22	24.13	69.430	
5,300.00	4,975.41	4,992.27	4,989.58	35.51	8.74	-179.44	-16.60	-0.03	1,681.75	1,657.38	24.37	69.022	
5,400.00	5,075.29	5,085.05	5,082.27	35.63	8.93	-179.31	-20.47	-1.14	1,684.98	1,660.42	24.56	68.618	
5,484.72	5,160.00	5,163.44	5,160.58	35.69	9.09	86.46	-23.82	-1.76	1,685.34	1,660.65	24.69	68.267	
5,500.00	5,175.28	5,177.57	5,174.70	35.70	9.12	86.48	-24.43	-1.84	1,685.21	1,660.47	24.74	68.123	
5,600.00	5,275.28	5,274.76	5,271.80	35.77	9.32	86.63	-28.64	-2.24	1,684.53	1,659.45	25.08	67.159	
5,700.00	5,375.28	5,373.44	5,370.39	35.84	9.53	86.77	-32.94	-2.57	1,683.95	1,658.52	25.43	66.206	
5,800.00	5,475.28	5,474.28	5,471.14	35.91	9.75	86.92	-37.20	-2.89	1,683.41	1,657.61	25.80	65.254	
5,900.00	5,575.28	5,575.95	5,572.73	35.98	9.97	87.05	-41.05	-3.33	1,682.77	1,656.61	26.17	64.314	
6,000.00	5,675.28	5,676.32	5,673.04	36.06	10.19	87.16	-44.53	-3.85	1,682.07	1,655.54	26.54	63.391	
6,100.00	5,775.28	5,776.28	5,772.94	36.13	10.42	87.28	-47.98	-4.38	1,681.38	1,654.47	26.91	62.488	
6,200.00	5,875.28	5,876.87	5,873.46	36.21	10.64	87.40	-51.57	-4.93	1,680.67	1,653.39	27.29	61.594	
6,300.00	5,975.28	5,977.63	5,974.14	36.28	10.87	87.54	-55.61	-5.50	1,679.93	1,652.26	27.67	60.715	
6,400.00	6,075.28	6,077.52	6,073.94	36.36	11.10	87.68	-59.78	-6.09	1,679.16	1,651.11	28.05	59.853	
6,500.00	6,175.28	6,177.21	6,173.55	36.44	11.33	87.81	-63.53	-6.68	1,678.42	1,649.98	28.44	59.012	
6,600.00	6,275.28	6,273.04	6,269.33	36.52	11.55	87.92	-66.84	-7.16	1,677.79	1,648.97	28.82	58.210	
6,700.00	6,375.28	6,367.72	6,363.95	36.60	11.77	88.03	-70.13	-7.35	1,677.47	1,648.27	29.20	57.441	
6,758.35	6,433.63	6,423.43	6,419.63	36.65	11.90	88.10	-72.06	-7.32	1,677.43	1,648.00	29.43	57.002	
6,800.00	6,475.28	6,463.67	6,459.84	36.69	11.99	88.14	-73.43	-7.26	1,677.45	1,647.86	29.59	56.692	
6,900.00	6,575.28	6,560.28	6,556.40	36.77	12.22	88.25	-76.54	-6.98	1,677.63	1,647.66	29.98	55.964	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well NBU 920-13D2DS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Reference Site:</b>	NBU 920-13C PAD	<b>MD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	NBU 920-13D2DS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	NBU 920-13D2DS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-19-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NBU 920-13C PAD - NBU 920-13C EXISTING - NBU 920-13C EXISTING - NBU 920-13C EXISTING													Offset Site Error:	0.00 ft
Survey Program: 100-NS-GYRO-MS													Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
7,000.00	6,675.28	6,659.40	6,655.48	36.86	12.45	88.35	-79.56	-6.55	1,677.98	1,647.61	30.37	55.245		
7,100.00	6,775.28	6,760.28	6,756.31	36.94	12.68	88.46	-82.61	-6.14	1,678.30	1,647.53	30.78	54.532		
7,200.00	6,875.28	6,863.44	6,859.42	37.03	12.93	88.56	-85.74	-5.82	1,678.53	1,647.35	31.19	53.819		
7,300.00	6,975.28	6,968.09	6,964.03	37.12	13.18	88.67	-88.92	-5.77	1,678.51	1,646.90	31.61	53.105		
7,400.00	7,075.28	7,070.78	7,066.67	37.21	13.42	88.78	-92.10	-5.97	1,678.25	1,646.22	32.03	52.403		
7,500.00	7,175.28	7,172.60	7,168.43	37.30	13.67	88.90	-95.47	-6.28	1,677.87	1,645.43	32.44	51.715		
7,600.00	7,275.28	7,273.04	7,268.81	37.39	13.91	89.01	-98.89	-6.67	1,677.43	1,644.56	32.86	51.044		
7,700.00	7,375.28	7,372.99	7,368.71	37.48	14.16	89.12	-102.08	-7.06	1,676.98	1,643.70	33.28	50.389		
7,800.00	7,475.28	7,470.43	7,466.10	37.58	14.39	89.22	-104.93	-7.40	1,676.59	1,642.90	33.69	49.759		
7,900.00	7,575.28	7,566.95	7,562.59	37.67	14.63	89.30	-107.37	-7.54	1,676.41	1,642.31	34.11	49.154		
7,941.97	7,617.25	7,607.61	7,603.25	37.72	14.73	89.33	-108.28	-7.54	1,676.40	1,642.12	34.28	48.905		
8,000.00	7,675.28	7,664.78	7,660.40	37.77	14.87	89.38	-109.67	-7.51	1,676.41	1,641.89	34.52	48.561		
8,100.00	7,775.28	7,763.27	7,758.84	37.87	15.11	89.48	-112.55	-7.39	1,676.51	1,641.57	34.94	47.980		
8,200.00	7,875.28	7,861.50	7,857.02	37.97	15.35	89.59	-115.84	-7.17	1,676.71	1,641.34	35.36	47.414		
8,300.00	7,975.28	7,959.62	7,955.10	38.07	15.59	89.69	-118.77	-6.84	1,677.02	1,641.23	35.79	46.864		
8,400.00	8,075.28	8,060.10	8,055.54	38.17	15.84	89.78	-121.44	-6.45	1,677.40	1,641.19	36.21	46.320		
8,500.00	8,175.28	8,162.21	8,157.60	38.27	16.09	89.88	-124.34	-6.15	1,677.68	1,641.04	36.65	45.778		
8,600.00	8,275.28	8,260.36	8,255.71	38.37	16.33	89.98	-127.27	-5.92	1,677.92	1,640.84	37.07	45.259		
8,700.00	8,375.28	8,356.20	8,351.52	38.48	16.57	90.07	-129.92	-5.48	1,678.37	1,640.88	37.49	44.764		
8,800.00	8,475.28	8,450.78	8,446.06	38.58	16.76	90.15	-132.12	-4.80	1,679.10	1,641.23	37.87	44.334		
8,900.00	8,575.28	8,544.30	8,539.58	38.69	16.92	90.18	-132.94	-3.78	1,680.20	1,641.98	38.22	43.966		
9,000.00	8,675.28	8,640.73	8,635.99	38.80	17.09	90.16	-132.55	-2.38	1,681.65	1,643.09	38.56	43.610		
9,100.00	8,775.28	8,741.41	8,736.66	38.90	17.26	90.20	-133.54	-0.89	1,683.13	1,644.21	38.92	43.249		
9,200.00	8,875.28	8,841.67	8,836.87	39.01	17.46	90.29	-136.32	0.55	1,684.58	1,645.28	39.30	42.861		
9,300.00	8,975.28	8,941.43	8,936.59	39.12	17.69	90.37	-138.78	1.99	1,686.04	1,646.31	39.72	42.444		
9,400.00	9,075.28	9,039.64	9,034.78	39.23	17.91	90.43	-140.48	3.44	1,687.53	1,647.40	40.13	42.051		
9,500.00	9,175.28	9,135.62	9,130.73	39.35	18.11	90.47	-141.76	5.06	1,689.22	1,648.70	40.52	41.688		
9,600.00	9,275.28	9,235.63	9,230.72	39.46	18.32	90.51	-142.78	6.93	1,691.10	1,650.19	40.92	41.331		
9,700.00	9,375.28	9,300.00	9,295.07	39.57	18.45	90.53	-143.36	8.00	1,693.19	1,651.96	41.23	41.064		
9,800.00	9,475.28	9,300.00	9,295.07	39.69	18.45	90.53	-143.36	8.00	1,700.04	1,658.62	41.42	41.045		
9,900.00	9,575.28	9,300.00	9,295.07	39.80	18.45	90.53	-143.36	8.00	1,712.71	1,671.11	41.61	41.165		
10,000.00	9,675.28	9,300.00	9,295.07	39.92	18.45	90.53	-143.36	8.00	1,731.08	1,689.28	41.79	41.419		
10,100.00	9,775.28	9,300.00	9,295.07	40.04	18.45	90.53	-143.36	8.00	1,754.95	1,712.97	41.98	41.802		
10,200.00	9,875.28	9,300.00	9,295.07	40.16	18.45	90.53	-143.36	8.00	1,784.13	1,741.96	42.17	42.307		
10,300.00	9,975.28	9,300.00	9,295.07	40.28	18.45	90.53	-143.36	8.00	1,818.34	1,775.98	42.36	42.925		
10,400.00	10,075.28	9,300.00	9,295.07	40.40	18.45	90.53	-143.36	8.00	1,857.31	1,814.76	42.55	43.649		
10,500.00	10,175.28	9,300.00	9,295.07	40.52	18.45	90.53	-143.36	8.00	1,900.74	1,858.00	42.74	44.471		
10,600.00	10,275.28	9,300.00	9,295.07	40.64	18.45	90.53	-143.36	8.00	1,948.35	1,905.42	42.93	45.382		
10,700.00	10,375.28	9,300.00	9,295.07	40.76	18.45	90.53	-143.36	8.00	1,999.83	1,956.70	43.12	46.374		
10,800.00	10,475.28	9,300.00	9,295.07	40.89	18.45	90.53	-143.36	8.00	2,054.88	2,011.57	43.32	47.439		
10,900.00	10,575.28	9,300.00	9,295.07	41.01	18.45	90.53	-143.36	8.00	2,113.24	2,069.73	43.51	48.570		
11,000.00	10,675.28	9,300.00	9,295.07	41.14	18.45	90.53	-143.36	8.00	2,174.63	2,130.93	43.70	49.759		
11,039.72	10,715.00	9,300.00	9,295.07	41.19	18.45	90.53	-143.36	8.00	2,199.81	2,156.03	43.78	50.247		

<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well NBU 920-13D2DS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Reference Site:</b>	NBU 920-13C PAD	<b>MD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	NBU 920-13D2DS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	NBU 920-13D2DS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-19-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NBU 920-13C PAD - NBU 920-13C1AS - NBU 920-13C1AS - PLAN #1 1-19-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (")	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	33.09	33.51	21.84	39.99				
100.00	100.00	100.00	100.00	0.10	0.10	33.09	33.51	21.84	39.99	39.80	0.19	206.898	
200.00	200.00	200.00	200.00	0.32	0.32	33.09	33.51	21.84	39.99	39.35	0.64	62.214	
300.00	300.00	300.00	300.00	0.55	0.55	33.09	33.51	21.84	39.99	38.90	1.09	36.612 CC, ES	
400.00	399.95	399.95	399.95	0.76	0.77	130.25	33.51	21.84	41.64	40.10	1.54	27.123	
500.00	499.63	499.63	499.63	0.99	0.99	137.44	33.51	21.84	47.09	45.10	1.99	23.696	
600.00	598.77	598.77	598.77	1.27	1.22	146.08	33.51	21.84	57.41	54.95	2.46	23.352 SF	
700.00	697.08	697.08	697.08	1.61	1.44	153.82	33.51	21.84	73.28	70.35	2.94	24.966	
800.00	794.31	794.31	794.31	2.05	1.66	159.80	33.51	21.84	94.86	91.45	3.41	27.812	
900.00	890.18	890.18	890.18	2.59	1.87	164.17	33.51	21.84	121.99	118.11	3.88	31.409	
1,000.00	984.43	984.43	984.43	3.23	2.08	167.32	33.51	21.84	154.46	150.10	4.36	35.457	
1,087.30	1,065.20	1,065.20	1,065.20	3.88	2.27	169.35	33.51	21.84	187.01	182.25	4.77	39.215	
1,100.00	1,076.83	1,076.83	1,076.83	3.98	2.29	169.63	33.51	21.84	192.03	187.20	4.83	39.746	
1,200.00	1,168.45	1,168.45	1,168.45	4.80	2.50	171.41	33.51	21.84	231.64	226.31	5.33	43.462	
1,300.00	1,260.07	1,260.07	1,260.07	5.62	2.70	172.67	33.51	21.84	271.38	265.54	5.84	46.492	
1,400.00	1,351.70	1,351.70	1,351.70	6.46	2.91	173.61	33.51	21.84	311.21	304.85	6.35	48.993	
1,500.00	1,443.32	1,443.32	1,443.32	7.30	3.12	174.34	33.51	21.84	351.09	344.21	6.87	51.084	
1,600.00	1,534.94	1,534.94	1,534.94	8.15	3.32	174.92	33.51	21.84	391.00	383.61	7.40	52.853	
1,700.00	1,626.56	1,626.56	1,626.56	9.00	3.53	175.39	33.51	21.84	430.95	423.02	7.93	54.365	
1,800.00	1,718.19	1,718.19	1,718.19	9.85	3.73	175.78	33.51	21.84	470.92	462.46	8.46	55.670	
1,900.00	1,809.81	1,809.81	1,809.81	10.70	3.94	176.11	33.51	21.84	510.90	501.90	8.99	56.807	
2,000.00	1,901.43	1,901.43	1,901.43	11.55	4.15	176.39	33.51	21.84	550.89	541.36	9.53	57.805	
2,100.00	1,993.06	1,993.06	1,993.06	12.41	4.35	176.64	33.51	21.84	590.89	580.83	10.07	58.686	
2,200.00	2,084.68	2,084.68	2,084.68	13.27	4.56	176.85	33.51	21.84	630.91	620.30	10.61	59.471	
2,300.00	2,176.30	2,176.30	2,176.30	14.12	4.76	177.04	33.51	21.84	670.92	659.77	11.15	60.173	
2,400.00	2,267.92	2,267.92	2,267.92	14.98	4.97	177.21	33.51	21.84	710.95	699.25	11.69	60.804	
2,500.00	2,359.55	2,359.55	2,359.55	15.84	5.18	177.35	33.51	21.84	750.97	738.74	12.24	61.375	
2,600.00	2,451.17	2,451.17	2,451.17	16.70	5.38	177.49	33.51	21.84	791.01	778.23	12.78	61.893	
2,700.00	2,542.79	2,542.79	2,542.79	17.56	5.59	177.61	33.51	21.84	831.04	817.72	13.33	62.365	
2,800.00	2,634.42	2,630.00	2,630.00	18.42	5.78	177.71	33.51	21.84	871.09	857.23	13.86	62.839	
2,900.00	2,726.04	2,700.00	2,699.98	19.27	5.94	177.76	34.09	22.98	912.69	898.32	14.37	63.535	
3,000.00	2,817.66	2,757.86	2,757.77	20.13	6.06	177.75	35.45	25.64	957.04	942.19	14.84	64.483	
3,100.00	2,909.28	2,817.49	2,817.18	20.99	6.19	177.70	37.69	30.02	1,004.03	988.71	15.32	65.522	
3,200.00	3,000.91	2,875.23	2,874.55	21.85	6.32	177.61	40.66	35.83	1,053.55	1,037.75	15.80	66.671	
3,300.00	3,092.53	2,931.07	2,929.83	22.71	6.44	177.50	44.29	42.92	1,105.47	1,089.19	16.28	67.914	
3,400.00	3,184.15	3,000.00	2,997.69	23.57	6.61	177.32	49.77	53.65	1,159.84	1,143.06	16.78	69.121	
3,500.00	3,275.78	3,037.09	3,034.01	24.43	6.70	177.21	53.18	60.32	1,216.08	1,198.86	17.22	70.630	
3,600.00	3,367.40	3,100.00	3,095.27	25.29	6.87	177.00	59.70	73.07	1,274.65	1,256.94	17.71	71.975	
3,700.00	3,459.02	3,135.68	3,129.79	26.16	6.98	176.87	63.80	81.10	1,334.98	1,316.84	18.15	73.568	
3,800.00	3,550.64	3,200.00	3,191.58	27.02	7.17	176.63	71.94	97.01	1,397.48	1,378.83	18.64	74.953	
3,900.00	3,642.27	3,227.13	3,217.45	27.88	7.27	176.52	75.65	104.28	1,461.36	1,442.29	19.06	76.652	
4,000.00	3,733.89	3,270.29	3,258.36	28.74	7.43	176.34	81.90	116.51	1,527.11	1,507.58	19.52	78.226	
4,100.00	3,825.51	3,323.78	3,308.69	29.60	7.63	176.10	90.16	132.65	1,594.34	1,574.33	20.01	79.672	
4,200.00	3,917.14	3,397.24	3,377.72	30.46	7.94	175.81	101.59	155.02	1,661.90	1,641.38	20.53	80.968	
4,303.76	4,012.21	3,473.47	3,449.35	31.35	8.28	175.52	113.46	178.23	1,732.03	1,710.96	21.07	82.214	
4,400.00	4,101.01	3,545.22	3,516.78	32.07	8.62	175.41	124.63	200.08	1,795.89	1,774.25	21.64	82.989	
4,500.00	4,194.56	3,621.98	3,588.90	32.68	9.00	175.29	136.58	223.46	1,859.68	1,837.48	22.20	83.777	
4,600.00	4,289.28	3,700.88	3,663.04	33.23	9.41	175.17	148.86	247.49	1,920.77	1,898.04	22.73	84.494	
4,700.00	4,385.06	3,781.82	3,739.10	33.72	9.84	175.05	161.46	272.14	1,979.10	1,955.85	23.25	85.140	
4,800.00	4,481.78	3,864.71	3,817.00	34.15	10.30	174.93	174.37	297.38	2,034.59	2,010.85	23.73	85.730	
4,900.00	4,579.33	4,040.24	3,982.91	34.53	11.18	174.58	200.42	348.34	2,086.32	2,061.91	24.41	85.473	
5,000.00	4,677.59	4,347.31	4,280.30	34.86	12.38	174.16	234.98	415.94	2,127.58	2,102.25	25.32	84.012	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well NBU 920-13D2DS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Reference Site:</b>	NBU 920-13C PAD	<b>MD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	NBU 920-13D2DS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	NBU 920-13D2DS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-19-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NBU 920-13C PAD - NBU 920-13C1AS - NBU 920-13C1AS - PLAN #1 1-19-10 RHS													Offset Site Error:	0.00 ft
Survey Program: 0-MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	4,776.43	4,685.00	4,614.60	35.13	13.36	173.99	256.03	457.11	2,155.50	2,129.28	26.21	82.229		
5,200.00	4,875.75	4,946.37	4,875.75	35.34	13.83	174.04	260.04	464.97	2,169.45	2,142.62	26.83	80.865		
5,300.00	4,975.41	5,046.03	4,975.41	35.51	13.99	174.08	260.04	464.97	2,177.59	2,150.49	27.11	80.333		
5,400.00	5,075.29	5,145.91	5,075.29	35.63	14.16	174.10	260.04	464.97	2,182.27	2,154.92	27.35	79.787		
5,484.72	5,160.00	5,230.62	5,160.00	35.69	14.30	79.77	260.04	464.97	2,183.51	2,155.99	27.53	79.322		
5,500.00	5,175.28	5,245.90	5,175.28	35.70	14.33	79.77	260.04	464.97	2,183.51	2,155.94	27.58	79.173		
5,600.00	5,275.28	5,345.90	5,275.28	35.77	14.50	79.77	260.04	464.97	2,183.51	2,155.59	27.92	78.204		
5,700.00	5,375.28	5,445.90	5,375.28	35.84	14.67	79.77	260.04	464.97	2,183.51	2,155.25	28.26	77.252		
5,800.00	5,475.28	5,545.90	5,475.28	35.91	14.85	79.77	260.04	464.97	2,183.51	2,154.90	28.61	76.316		
5,900.00	5,575.28	5,645.90	5,575.28	35.98	15.02	79.77	260.04	464.97	2,183.51	2,154.55	28.96	75.396		
6,000.00	5,675.28	5,745.90	5,675.28	36.06	15.20	79.77	260.04	464.97	2,183.51	2,154.20	29.31	74.492		
6,100.00	5,775.28	5,845.90	5,775.28	36.13	15.38	79.77	260.04	464.97	2,183.51	2,153.85	29.67	73.603		
6,200.00	5,875.28	5,945.90	5,875.28	36.21	15.56	79.77	260.04	464.97	2,183.51	2,153.49	30.02	72.730		
6,300.00	5,975.28	6,045.90	5,975.28	36.28	15.74	79.77	260.04	464.97	2,183.51	2,153.13	30.38	71.872		
6,400.00	6,075.28	6,145.90	6,075.28	36.36	15.92	79.77	260.04	464.97	2,183.51	2,152.77	30.74	71.029		
6,500.00	6,175.28	6,245.90	6,175.28	36.44	16.10	79.77	260.04	464.97	2,183.51	2,152.41	31.10	70.201		
6,600.00	6,275.28	6,345.90	6,275.28	36.52	16.29	79.77	260.04	464.97	2,183.51	2,152.05	31.47	69.388		
6,700.00	6,375.28	6,445.90	6,375.28	36.60	16.47	79.77	260.04	464.97	2,183.51	2,151.68	31.83	68.589		
6,800.00	6,475.28	6,545.90	6,475.28	36.69	16.66	79.77	260.04	464.97	2,183.51	2,151.31	32.20	67.804		
6,900.00	6,575.28	6,645.90	6,575.28	36.77	16.85	79.77	260.04	464.97	2,183.51	2,150.94	32.57	67.034		
7,000.00	6,675.28	6,745.90	6,675.28	36.86	17.03	79.77	260.04	464.97	2,183.51	2,150.57	32.95	66.277		
7,100.00	6,775.28	6,845.90	6,775.28	36.94	17.22	79.77	260.04	464.97	2,183.51	2,150.20	33.32	65.533		
7,200.00	6,875.28	6,945.90	6,875.28	37.03	17.41	79.77	260.04	464.97	2,183.51	2,149.82	33.69	64.803		
7,300.00	6,975.28	7,045.90	6,975.28	37.12	17.60	79.77	260.04	464.97	2,183.51	2,149.44	34.07	64.086		
7,400.00	7,075.28	7,145.90	7,075.28	37.21	17.79	79.77	260.04	464.97	2,183.51	2,149.06	34.45	63.382		
7,500.00	7,175.28	7,245.90	7,175.28	37.30	17.99	79.77	260.04	464.97	2,183.51	2,148.68	34.83	62.690		
7,600.00	7,275.28	7,345.90	7,275.28	37.39	18.18	79.77	260.04	464.97	2,183.51	2,148.30	35.21	62.011		
7,700.00	7,375.28	7,445.90	7,375.28	37.48	18.37	79.77	260.04	464.97	2,183.51	2,147.92	35.59	61.344		
7,800.00	7,475.28	7,545.90	7,475.28	37.58	18.57	79.77	260.04	464.97	2,183.51	2,147.54	35.98	60.688		
7,900.00	7,575.28	7,645.90	7,575.28	37.67	18.76	79.77	260.04	464.97	2,183.51	2,147.15	36.37	60.044		
8,000.00	7,675.28	7,745.90	7,675.28	37.77	18.96	79.77	260.04	464.97	2,183.51	2,146.76	36.75	59.412		
8,100.00	7,775.28	7,845.90	7,775.28	37.87	19.15	79.77	260.04	464.97	2,183.51	2,146.37	37.14	58.790		
8,200.00	7,875.28	7,945.90	7,875.28	37.97	19.35	79.77	260.04	464.97	2,183.51	2,145.98	37.53	58.180		
8,300.00	7,975.28	8,045.90	7,975.28	38.07	19.55	79.77	260.04	464.97	2,183.51	2,145.59	37.92	57.580		
8,400.00	8,075.28	8,145.90	8,075.28	38.17	19.75	79.77	260.04	464.97	2,183.51	2,145.20	38.31	56.991		
8,500.00	8,175.28	8,245.90	8,175.28	38.27	19.95	79.77	260.04	464.97	2,183.51	2,144.81	38.71	56.412		
8,600.00	8,275.28	8,345.90	8,275.28	38.37	20.15	79.77	260.04	464.97	2,183.51	2,144.41	39.10	55.843		
8,700.00	8,375.28	8,445.90	8,375.28	38.48	20.34	79.77	260.04	464.97	2,183.51	2,144.02	39.50	55.284		
8,800.00	8,475.28	8,545.90	8,475.28	38.58	20.55	79.77	260.04	464.97	2,183.51	2,143.62	39.89	54.735		
8,900.00	8,575.28	8,645.90	8,575.28	38.69	20.75	79.77	260.04	464.97	2,183.51	2,143.22	40.29	54.194		
9,000.00	8,675.28	8,745.90	8,675.28	38.80	20.95	79.77	260.04	464.97	2,183.51	2,142.83	40.69	53.664		
9,100.00	8,775.28	8,845.90	8,775.28	38.90	21.15	79.77	260.04	464.97	2,183.51	2,142.43	41.09	53.142		
9,200.00	8,875.28	8,945.90	8,875.28	39.01	21.35	79.77	260.04	464.97	2,183.51	2,142.03	41.49	52.629		
9,300.00	8,975.28	9,045.90	8,975.28	39.12	21.55	79.77	260.04	464.97	2,183.51	2,141.62	41.89	52.125		
9,400.00	9,075.28	9,145.90	9,075.28	39.23	21.76	79.77	260.04	464.97	2,183.51	2,141.22	42.29	51.629		
9,500.00	9,175.28	9,245.90	9,175.28	39.35	21.96	79.77	260.04	464.97	2,183.51	2,140.82	42.70	51.141		
9,600.00	9,275.28	9,345.90	9,275.28	39.46	22.16	79.77	260.04	464.97	2,183.51	2,140.41	43.10	50.662		
9,700.00	9,375.28	9,445.90	9,375.28	39.57	22.37	79.77	260.04	464.97	2,183.51	2,140.01	43.50	50.190		
9,800.00	9,475.28	9,545.90	9,475.28	39.69	22.57	79.77	260.04	464.97	2,183.51	2,139.60	43.91	49.726		
9,900.00	9,575.28	9,645.90	9,575.28	39.80	22.78	79.77	260.04	464.97	2,183.51	2,139.20	44.32	49.270		
10,000.00	9,675.28	9,745.90	9,675.28	39.92	22.98	79.77	260.04	464.97	2,183.51	2,138.79	44.72	48.822		
10,100.00	9,775.28	9,845.90	9,775.28	40.04	23.19	79.77	260.04	464.97	2,183.51	2,138.38	45.13	48.380		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well NBU 920-13D2DS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Reference Site:</b>	NBU 920-13C PAD	<b>MD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	NBU 920-13D2DS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	NBU 920-13D2DS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-19-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> NBU 920-13C PAD - NBU 920-13C1AS - NBU 920-13C1AS - PLAN #1 1-19-10 RHS												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	0.00 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.00	9,875.28	9,945.90	9,875.28	40.16	23.40	79.77	260.04	464.97	2,183.51	2,137.97	45.54	47.946	
10,300.00	9,975.28	10,045.90	9,975.28	40.28	23.60	79.77	260.04	464.97	2,183.51	2,137.56	45.95	47.519	
10,400.00	10,075.28	10,145.90	10,075.28	40.40	23.81	79.77	260.04	464.97	2,183.51	2,137.15	46.36	47.098	
10,500.00	10,175.28	10,245.90	10,175.28	40.52	24.02	79.77	260.04	464.97	2,183.51	2,136.74	46.77	46.684	
10,600.00	10,275.28	10,345.90	10,275.28	40.64	24.22	79.77	260.04	464.97	2,183.51	2,136.33	47.18	46.277	
10,700.00	10,375.28	10,445.90	10,375.28	40.76	24.43	79.77	260.04	464.97	2,183.51	2,135.92	47.60	45.876	
10,800.00	10,475.28	10,545.90	10,475.28	40.89	24.64	79.77	260.04	464.97	2,183.51	2,135.51	48.01	45.482	
10,900.00	10,575.28	10,645.90	10,575.28	41.01	24.85	79.77	260.04	464.97	2,183.51	2,135.09	48.42	45.094	
11,000.00	10,675.28	10,745.90	10,675.28	41.14	25.06	79.77	260.04	464.97	2,183.51	2,134.68	48.84	44.711	
11,017.55	10,692.83	10,763.45	10,692.83	41.16	25.09	79.77	260.04	464.97	2,183.51	2,134.61	48.91	44.645	
11,039.72	10,715.00	10,769.62	10,699.00	41.19	25.11	79.77	260.04	464.97	2,183.57	2,134.61	48.97	44.594	

<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well NBU 920-13D2DS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Reference Site:</b>	NBU 920-13C PAD	<b>MD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	NBU 920-13D2DS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	NBU 920-13D2DS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-19-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NBU 920-13C PAD - NBU 920-13C4BS - NBU 920-13C4BS - PLAN #1 1-19-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	33.09	16.75	10.92	20.00				
100.00	100.00	100.00	100.00	0.10	0.10	33.09	16.75	10.92	20.00	19.80	0.19	103.449	
200.00	200.00	200.00	200.00	0.32	0.32	33.09	16.75	10.92	20.00	19.35	0.64	31.107	
300.00	300.00	300.00	300.00	0.55	0.55	33.09	16.75	10.92	20.00	18.90	1.09	18.306 CC, ES	
400.00	399.95	399.95	399.95	0.76	0.77	132.89	16.75	10.92	21.69	20.15	1.54	14.124	
500.00	499.63	499.63	499.63	0.99	0.99	144.78	16.75	10.92	27.63	25.65	1.99	13.897 SF	
600.00	598.77	598.77	598.77	1.27	1.22	155.74	16.75	10.92	39.04	36.59	2.45	15.912	
700.00	697.08	697.08	697.08	1.61	1.44	163.24	16.75	10.92	56.18	53.26	2.92	19.242	
800.00	794.31	794.31	794.31	2.05	1.66	167.98	16.75	10.92	78.85	75.46	3.39	23.291	
900.00	890.18	890.18	890.18	2.59	1.87	171.02	16.75	10.92	106.82	102.96	3.85	27.733	
1,000.00	984.43	984.43	984.43	3.23	2.08	173.02	16.75	10.92	139.91	135.59	4.32	32.387	
1,087.30	1,065.20	1,065.20	1,065.20	3.88	2.27	174.25	16.75	10.92	172.88	168.15	4.73	36.544	
1,100.00	1,076.83	1,076.83	1,076.83	3.98	2.29	174.41	16.75	10.92	177.94	173.15	4.79	37.123	
1,200.00	1,168.45	1,168.45	1,168.45	4.80	2.50	175.44	16.75	10.92	217.88	212.58	5.29	41.162	
1,300.00	1,260.07	1,260.07	1,260.07	5.62	2.70	176.15	16.75	10.92	257.85	252.05	5.80	44.433	
1,400.00	1,351.70	1,351.70	1,351.70	6.46	2.91	176.67	16.75	10.92	297.85	291.53	6.32	47.123	
1,500.00	1,443.32	1,443.32	1,443.32	7.30	3.12	177.06	16.75	10.92	337.87	331.02	6.84	49.368	
1,600.00	1,534.94	1,534.94	1,534.94	8.15	3.32	177.37	16.75	10.92	377.89	370.52	7.37	51.264	
1,700.00	1,626.56	1,626.56	1,626.56	9.00	3.53	177.62	16.75	10.92	417.93	410.02	7.90	52.884	
1,800.00	1,718.19	1,718.19	1,718.19	9.85	3.73	177.83	16.75	10.92	457.97	449.53	8.44	54.283	
1,900.00	1,809.81	1,809.81	1,809.81	10.70	3.94	178.01	16.75	10.92	498.01	489.04	8.97	55.501	
2,000.00	1,901.43	1,901.43	1,901.43	11.55	4.15	178.15	16.75	10.92	538.06	528.54	9.51	56.570	
2,100.00	1,993.06	1,993.06	1,993.06	12.41	4.35	178.28	16.75	10.92	578.10	568.05	10.05	57.516	
2,200.00	2,084.68	2,084.68	2,084.68	13.27	4.56	178.39	16.75	10.92	618.16	607.56	10.59	58.358	
2,300.00	2,176.30	2,176.30	2,176.30	14.12	4.76	178.49	16.75	10.92	658.21	647.07	11.14	59.112	
2,400.00	2,267.92	2,267.92	2,267.92	14.98	4.97	178.58	16.75	10.92	698.26	686.59	11.68	59.790	
2,500.00	2,359.55	2,359.55	2,359.55	15.84	5.18	178.66	16.75	10.92	738.32	726.10	12.22	60.404	
2,600.00	2,451.17	2,451.17	2,451.17	16.70	5.38	178.72	16.75	10.92	778.38	765.61	12.77	60.961	
2,700.00	2,542.79	2,542.79	2,542.79	17.56	5.59	178.79	16.75	10.92	818.43	805.12	13.31	61.470	
2,800.00	2,634.42	2,634.42	2,634.42	18.42	5.79	178.84	16.75	10.92	858.49	844.63	13.86	61.935	
2,900.00	2,726.04	2,733.90	2,733.87	19.27	5.98	179.06	14.45	10.72	898.17	883.78	14.39	62.423	
3,000.00	2,817.66	2,834.11	2,833.78	20.13	6.15	179.59		6.93	937.04	922.13	14.90	62.879	
3,100.00	2,909.28	2,934.00	2,932.84	20.99	6.33	-179.59		-5.75	975.18	959.75	15.43	63.196	
3,200.00	3,000.91	3,033.02	3,030.25	21.85	6.52	-178.54		-23.39	1,012.78	996.79	15.99	63.334	
3,300.00	3,092.53	3,130.67	3,125.29	22.71	6.74	-177.30		-45.69	1,050.02	1,033.42	16.60	63.255	
3,400.00	3,184.15	3,226.48	3,217.30	23.57	7.00	-175.89		-72.25	1,087.16	1,069.88	17.28	62.927	
3,500.00	3,275.78	3,319.42	3,305.20	24.43	7.30	-174.38		-102.33	1,124.44	1,106.42	18.03	62.373	
3,600.00	3,367.40	3,407.74	3,388.19	25.29	7.62	-172.95		-132.43	1,162.27	1,143.44	18.84	61.699	
3,700.00	3,459.02	3,496.06	3,471.18	26.16	7.98	-171.60		-162.52	1,200.75	1,181.04	19.70	60.942	
3,800.00	3,550.64	3,584.38	3,554.18	27.02	8.37	-170.33		-192.61	1,239.80	1,219.18	20.62	60.135	
3,900.00	3,642.27	3,672.70	3,637.17	27.88	8.79	-169.13		-222.70	1,279.38	1,257.81	21.57	59.312	
4,000.00	3,733.89	3,761.02	3,720.17	28.74	9.22	-168.00		-252.80	1,319.43	1,296.88	22.56	58.492	
4,100.00	3,825.51	3,849.34	3,803.16	29.60	9.67	-166.93		-282.89	1,359.93	1,336.36	23.57	57.687	
4,200.00	3,917.14	3,937.66	3,886.15	30.46	10.14	-165.92		-312.98	1,400.83	1,376.21	24.62	56.909	
4,303.76	4,012.21	4,031.47	3,974.46	31.35	10.61	-164.92		-344.48	1,443.61	1,417.92	25.69	56.188	
4,400.00	4,101.01	4,121.78	4,060.34	32.07	11.02	-164.34		-372.33	1,481.94	1,455.25	26.69	55.527	
4,500.00	4,194.56	4,218.22	4,152.96	32.68	11.44	-163.83		-399.08	1,518.67	1,491.03	27.64	54.946	
4,600.00	4,289.28	4,317.11	4,248.82	33.23	11.84	-163.42		-423.27	1,552.10	1,523.57	28.52	54.414	
4,700.00	4,385.06	4,418.23	4,347.65	33.72	12.23	-163.10		-444.58	1,582.10	1,552.76	29.33	53.938	
4,800.00	4,481.78	4,521.34	4,449.12	34.15	12.60	-162.87		-462.72	1,608.56	1,578.50	30.05	53.523	
4,900.00	4,579.33	4,626.13	4,552.87	34.53	12.93	-162.73		-477.41	1,631.38	1,600.70	30.68	53.172	
5,000.00	4,677.59	4,732.30	4,658.46	34.86	13.22	-162.66		-488.43	1,650.50	1,619.29	31.21	52.887	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well NBU 920-13D2DS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Reference Site:</b>	NBU 920-13C PAD	<b>MD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	NBU 920-13D2DS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	NBU 920-13D2DS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-19-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design NBU 920-13C PAD - NBU 920-13C4BS - NBU 920-13C4BS - PLAN #1 1-19-10 RHS												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,100.00	4,776.43	4,839.52	4,765.43	35.13	13.47	-162.67	-495.60	-33.86	1,665.84	1,634.21	31.63	52.669	
5,200.00	4,875.75	4,947.43	4,873.29	35.34	13.68	-162.76	-498.79	-34.14	1,677.38	1,645.44	31.94	52.520	
5,300.00	4,975.41	5,049.56	4,975.41	35.51	13.85	-162.89	-498.95	-34.15	1,685.22	1,653.08	32.15	52.421	
5,400.00	5,075.29	5,149.44	5,075.29	35.63	14.02	-162.96	-498.95	-34.15	1,689.72	1,657.40	32.32	52.279	
5,484.72	5,160.00	5,234.15	5,160.00	35.69	14.16	102.68	-498.95	-34.15	1,690.92	1,658.47	32.45	52.112	
5,500.00	5,175.28	5,249.43	5,175.28	35.70	14.18	102.68	-498.95	-34.15	1,690.92	1,658.42	32.49	52.042	
5,600.00	5,275.28	5,349.43	5,275.28	35.77	14.35	102.68	-498.95	-34.15	1,690.92	1,658.14	32.78	51.588	
5,700.00	5,375.28	5,449.43	5,375.28	35.84	14.52	102.68	-498.95	-34.15	1,690.92	1,657.85	33.07	51.137	
5,800.00	5,475.28	5,549.43	5,475.28	35.91	14.69	102.68	-498.95	-34.15	1,690.92	1,657.56	33.36	50.688	
5,900.00	5,575.28	5,649.43	5,575.28	35.98	14.87	102.68	-498.95	-34.15	1,690.92	1,657.26	33.66	50.242	
6,000.00	5,675.28	5,749.43	5,675.28	36.06	15.04	102.68	-498.95	-34.15	1,690.92	1,656.96	33.96	49.799	
6,100.00	5,775.28	5,849.43	5,775.28	36.13	15.22	102.68	-498.95	-34.15	1,690.92	1,656.66	34.26	49.359	
6,200.00	5,875.28	5,949.43	5,875.28	36.21	15.39	102.68	-498.95	-34.15	1,690.92	1,656.35	34.56	48.922	
6,300.00	5,975.28	6,049.43	5,975.28	36.28	15.57	102.68	-498.95	-34.15	1,690.92	1,656.04	34.87	48.489	
6,400.00	6,075.28	6,149.43	6,075.28	36.36	15.75	102.68	-498.95	-34.15	1,690.92	1,655.73	35.18	48.060	
6,500.00	6,175.28	6,249.43	6,175.28	36.44	15.93	102.68	-498.95	-34.15	1,690.92	1,655.42	35.50	47.634	
6,600.00	6,275.28	6,349.43	6,275.28	36.52	16.12	102.68	-498.95	-34.15	1,690.92	1,655.10	35.81	47.213	
6,700.00	6,375.28	6,449.43	6,375.28	36.60	16.30	102.68	-498.95	-34.15	1,690.92	1,654.78	36.13	46.795	
6,800.00	6,475.28	6,549.43	6,475.28	36.69	16.48	102.68	-498.95	-34.15	1,690.92	1,654.46	36.46	46.381	
6,900.00	6,575.28	6,649.43	6,575.28	36.77	16.67	102.68	-498.95	-34.15	1,690.92	1,654.13	36.78	45.971	
7,000.00	6,675.28	6,749.43	6,675.28	36.86	16.85	102.68	-498.95	-34.15	1,690.92	1,653.81	37.11	45.566	
7,100.00	6,775.28	6,849.43	6,775.28	36.94	17.04	102.68	-498.95	-34.15	1,690.92	1,653.48	37.44	45.164	
7,200.00	6,875.28	6,949.43	6,875.28	37.03	17.23	102.68	-498.95	-34.15	1,690.92	1,653.14	37.77	44.767	
7,300.00	6,975.28	7,049.43	6,975.28	37.12	17.42	102.68	-498.95	-34.15	1,690.92	1,652.81	38.11	44.374	
7,400.00	7,075.28	7,149.43	7,075.28	37.21	17.61	102.68	-498.95	-34.15	1,690.92	1,652.47	38.44	43.985	
7,500.00	7,175.28	7,249.43	7,175.28	37.30	17.80	102.68	-498.95	-34.15	1,690.92	1,652.13	38.78	43.601	
7,600.00	7,275.28	7,349.43	7,275.28	37.39	17.99	102.68	-498.95	-34.15	1,690.92	1,651.79	39.12	43.220	
7,700.00	7,375.28	7,449.43	7,375.28	37.48	18.18	102.68	-498.95	-34.15	1,690.92	1,651.45	39.47	42.844	
7,800.00	7,475.28	7,549.43	7,475.28	37.58	18.37	102.68	-498.95	-34.15	1,690.92	1,651.10	39.81	42.473	
7,900.00	7,575.28	7,649.43	7,575.28	37.67	18.57	102.68	-498.95	-34.15	1,690.92	1,650.76	40.16	42.106	
8,000.00	7,675.28	7,749.43	7,675.28	37.77	18.76	102.68	-498.95	-34.15	1,690.92	1,650.41	40.51	41.743	
8,100.00	7,775.28	7,849.43	7,775.28	37.87	18.95	102.68	-498.95	-34.15	1,690.92	1,650.06	40.86	41.384	
8,200.00	7,875.28	7,949.43	7,875.28	37.97	19.15	102.68	-498.95	-34.15	1,690.92	1,649.70	41.21	41.030	
8,300.00	7,975.28	8,049.43	7,975.28	38.07	19.35	102.68	-498.95	-34.15	1,690.92	1,649.35	41.57	40.680	
8,400.00	8,075.28	8,149.43	8,075.28	38.17	19.54	102.68	-498.95	-34.15	1,690.92	1,648.99	41.92	40.334	
8,500.00	8,175.28	8,249.43	8,175.28	38.27	19.74	102.68	-498.95	-34.15	1,690.92	1,648.63	42.28	39.992	
8,600.00	8,275.28	8,349.43	8,275.28	38.37	19.94	102.68	-498.95	-34.15	1,690.92	1,648.27	42.64	39.655	
8,700.00	8,375.28	8,449.43	8,375.28	38.48	20.14	102.68	-498.95	-34.15	1,690.92	1,647.91	43.00	39.321	
8,800.00	8,475.28	8,549.43	8,475.28	38.58	20.33	102.68	-498.95	-34.15	1,690.92	1,647.55	43.37	38.992	
8,900.00	8,575.28	8,649.43	8,575.28	38.69	20.53	102.68	-498.95	-34.15	1,690.92	1,647.19	43.73	38.667	
9,000.00	8,675.28	8,749.43	8,675.28	38.80	20.73	102.68	-498.95	-34.15	1,690.92	1,646.82	44.10	38.346	
9,100.00	8,775.28	8,849.43	8,775.28	38.90	20.93	102.68	-498.95	-34.15	1,690.92	1,646.45	44.46	38.029	
9,200.00	8,875.28	8,949.43	8,875.28	39.01	21.14	102.68	-498.95	-34.15	1,690.92	1,646.08	44.83	37.716	
9,300.00	8,975.28	9,049.43	8,975.28	39.12	21.34	102.68	-498.95	-34.15	1,690.92	1,645.71	45.20	37.407	
9,400.00	9,075.28	9,149.43	9,075.28	39.23	21.54	102.68	-498.95	-34.15	1,690.92	1,645.34	45.57	37.102	
9,500.00	9,175.28	9,249.43	9,175.28	39.35	21.74	102.68	-498.95	-34.15	1,690.92	1,644.97	45.95	36.801	
9,600.00	9,275.28	9,349.43	9,275.28	39.46	21.94	102.68	-498.95	-34.15	1,690.92	1,644.59	46.32	36.503	
9,700.00	9,375.28	9,449.43	9,375.28	39.57	22.15	102.68	-498.95	-34.15	1,690.92	1,644.22	46.70	36.210	
9,800.00	9,475.28	9,549.43	9,475.28	39.69	22.35	102.68	-498.95	-34.15	1,690.92	1,643.84	47.07	35.920	
9,900.00	9,575.28	9,649.43	9,575.28	39.80	22.56	102.68	-498.95	-34.15	1,690.92	1,643.46	47.45	35.634	
10,000.00	9,675.28	9,749.43	9,675.28	39.92	22.76	102.68	-498.95	-34.15	1,690.92	1,643.08	47.83	35.351	
10,100.00	9,775.28	9,849.43	9,775.28	40.04	22.96	102.68	-498.95	-34.15	1,690.92	1,642.70	48.21	35.072	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

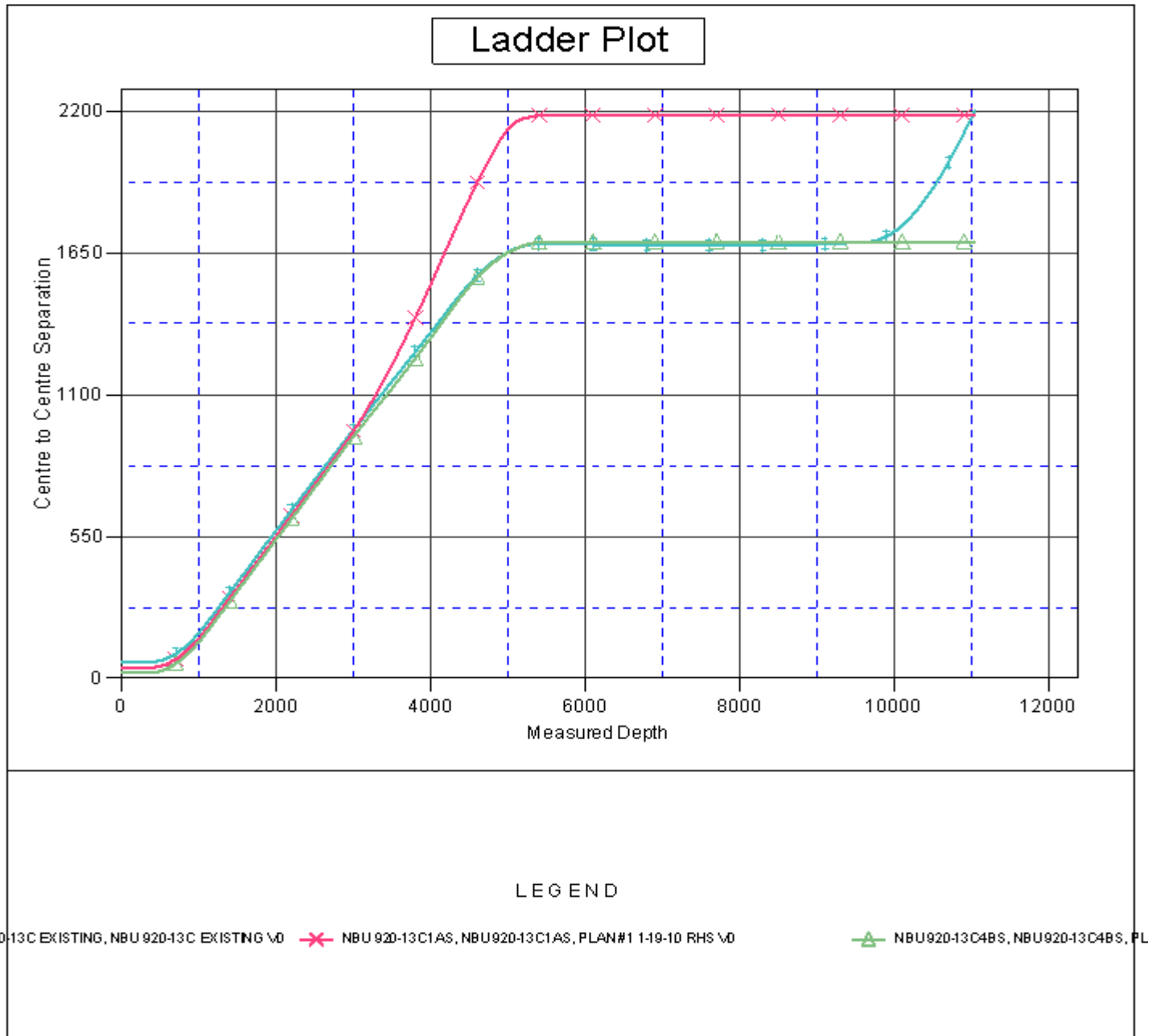
<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well NBU 920-13D2DS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Reference Site:</b>	NBU 920-13C PAD	<b>MD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	NBU 920-13D2DS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	NBU 920-13D2DS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-19-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> NBU 920-13C PAD - NBU 920-13C4BS - NBU 920-13C4BS - PLAN #1 1-19-10 RHS												<b>Offset Site Error:</b>	0.00 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	0.00 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.00	9,875.28	9,949.43	9,875.28	40.16	23.17	102.68	-498.95	-34.15	1,690.92	1,642.32	48.59	34.796	
10,300.00	9,975.28	10,049.43	9,975.28	40.28	23.38	102.68	-498.95	-34.15	1,690.92	1,641.94	48.98	34.524	
10,400.00	10,075.28	10,149.43	10,075.28	40.40	23.58	102.68	-498.95	-34.15	1,690.92	1,641.55	49.36	34.256	
10,500.00	10,175.28	10,249.43	10,175.28	40.52	23.79	102.68	-498.95	-34.15	1,690.92	1,641.17	49.75	33.991	
10,600.00	10,275.28	10,349.43	10,275.28	40.64	23.99	102.68	-498.95	-34.15	1,690.92	1,640.78	50.13	33.729	
10,700.00	10,375.28	10,449.43	10,375.28	40.76	24.20	102.68	-498.95	-34.15	1,690.92	1,640.40	50.52	33.471	
10,800.00	10,475.28	10,549.43	10,475.28	40.89	24.41	102.68	-498.95	-34.15	1,690.92	1,640.01	50.91	33.216	
10,900.00	10,575.28	10,649.43	10,575.28	41.01	24.62	102.68	-498.95	-34.15	1,690.92	1,639.62	51.30	32.964	
10,966.23	10,641.51	10,715.66	10,641.51	41.10	24.75	102.68	-498.95	-34.15	1,690.92	1,639.36	51.55	32.799	
11,000.00	10,675.28	10,748.15	10,674.00	41.14	24.82	102.68	-498.95	-34.15	1,690.92	1,639.23	51.68	32.717	
11,039.72	10,715.00	10,748.15	10,674.00	41.19	24.82	102.68	-498.95	-34.15	1,691.41	1,639.66	51.76	32.681	



<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well NBU 920-13D2DS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Reference Site:</b>	NBU 920-13C PAD	<b>MD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	NBU 920-13D2DS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	NBU 920-13D2DS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-19-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

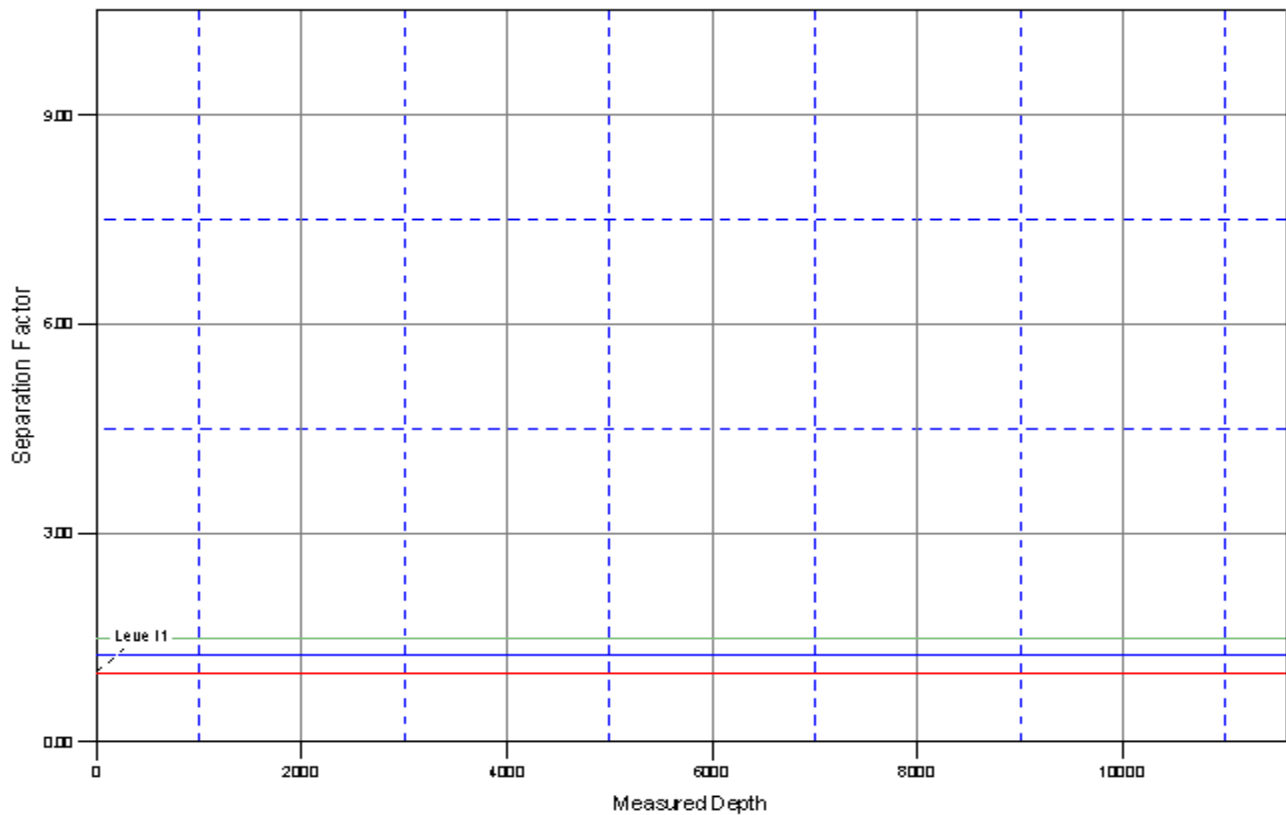
Reference Depths are relative to WELL @ 4724.00ft (Original Well Elev) Coordinates are relative to: NBU 920-13D2DS  
Offset Depths are relative to Offset Datum Coordinate System is Universal Transverse Mercator (US Survey Feet), Zone 12N  
Central Meridian is 111° 0' 0.000 W ° Grid Convergence at Surface is: 0.89°



<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well NBU 920-13D2DS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Reference Site:</b>	NBU 920-13C PAD	<b>MD Reference:</b>	WELL @ 4724.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	NBU 920-13D2DS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	NBU 920-13D2DS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 1-19-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4724.00ft (Original Well Elev) Coordinates are relative to: NBU 920-13D2DS  
Offset Depths are relative to Offset Datum Coordinate System is Universal Transverse Mercator (US Survey Feet), Zone 12N  
Central Meridian is 111° 0' 0.000 W ° Grid Convergence at Surface is: 0.89°

## Separation Factor Plot



### LEGEND

20-13C EXISTING, NBU 920-13C EXISTING \0 ✖ NBU 920-13C1AS, NBU 920-13C1AS, PLAN#1 1-19-10 RHS \0 ▲ NBU 920-13C4BS, NBU 920-13C4BS, PL

**NBU 920-13D2DS**  
(FKA NBU 920-12M4CS)  
Pad: NBU 920-13C  
Surface: 422' FNL, 2,135' FWL (NE/4NW/4)  
BHL: 518' FNL 450' FWL (NW/4NW/4)  
Sec. 13 T9S R20E

Uintah, Utah  
Mineral Lease: UTU 0579  
Operator: Kerr-McGee Oil & Gas Onshore LP

## **ONSHORE ORDER NO. 1**

### ***DRILLING PROGRAM***

**1. – 2. Estimated Tops of Important Geologic Markers:**  
**Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:**

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 – Surface	
Green River	1,704'	
Birds Nest	1,982'	Water
Mahogany	2,368'	Water
Wasatch	5,160'	Gas
Mesaverde	8,434'	Gas
MVU2	9,371'	Gas
MVL1	9,910'	Gas
TVD	10,715'	
TD	11,040'	

**3. Pressure Control Equipment (Schematic Attached)**

*Please refer to the attached Drilling Program.*

**4. Proposed Casing & Cementing Program:**

*Please refer to the attached Drilling Program.*

**5. Drilling Fluids Program:**

*Please refer to the attached Drilling Program.*

**6. Evaluation Program:**

*Please refer to the attached Drilling Program.*

**7. Abnormal Conditions:**

Maximum anticipated bottomhole pressure calculated at 11,040' TVD, approximately equals 6,676 psi (calculated at 0.62 psi/foot).

Maximum anticipated surface pressure equals approximately 4,318 psi (bottomhole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

**8. Anticipated Starting Dates:**

*Drilling is planned to commence immediately upon approval of this application.*

**9. Variances:**

*Please refer to the attached Drilling Program.*

*Onshore Order #2 – Air Drilling Variance*

*Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2*

- *Blowout Prevention Equipment (BOPE) requirements;*
- *Mud program requirements; and*
- *Special drilling operation (surface equipment placement) requirements associated with air drilling.*

*This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.*

*The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.*

*More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.*

***Background***

*In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.*

*Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found*

competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 12-1/4 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 12-1/4 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 9-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

#### **Variance for BOPE Requirements**

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

#### **Variance for Mud Material Requirements**

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

#### **Variance for Special Drilling Operation (surface equipment placement) Requirements**

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see



attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

***Variance for FIT Requirements***

KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). The air rig operation utilizes a 5M BOPE when drilling. This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.

***Conclusion***

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

**10. Other Information:**

*Please refer to the attached Drilling Program.*

**KERR-McGEE OIL & GAS ONSHORE LP**  
**DRILLING PROGRAM**

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP					DATE	January 21, 2010	
WELL NAME	<b>NBU 920-13D2DS</b>					TD	10,715'	11,040' MD
FIELD	Natural Buttes		COUNTY	Uintah	STATE	Utah	FINISHED ELEVATION	4,710'
SURFACE LOCATION	NE/4 NW/4	422' FNL	2135' FWL	Sec 13	T 9S	R 20E		
	Latitude: 40.041589		Longitude: -109.617147		NAD 83			
BTM HOLE LOCATION	NW/4 NW/4	518' FNL	450' FWL	-108.529679	R 20E			
	Latitude: 40.041238		Longitude: -109.623161		NAD 83			
OBJECTIVE ZONE(S)	Wasatch/Mesaverde							
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), Ute Tribe (Surface), UDOGM Tri-County Health Dept.							

GEOLOGICAL			MECHANICAL		
LOGS	FORMATION TOPS	DEPTH	HOLE SIZE	CASING SIZE	MUD WEIGHT
		40'		14"	
			11"	8-5/8", 28#, IJ-55, LTC	Air mist
<p>All water flows encountered while drilling will be reported to the appropriate agencies.</p>					
	Green River @	1,704'			
	Top of Birds Nest @	1,982'			
	Mahogany @	2,368'			
	Preset f/ GL @	2,570'			
	MD				
<p>Note: 12.25" surface hole will usually be drilled ±400' below the lost circulation zone (aka bird's nest). Drilled depth may be ±200' of the estimated set depth depending on the actual depth of the loss zone.</p>					
	Wasatch @	5,160'			
<p>Mud logging program TBD Cased hole logging program from TD - surf csg</p>					
			7-7/8"	4-1/2" 11.6# I-80 & HCP-110 or equivalent BTC/LTC csg	Water / Fresh Water Mud 8.3-12.2 ppg
	Mverde @	8,434' TVD			
	MVU2 @	9,371' TVD			
	MVU1 @	9,910' TVD			
<p>Max anticipated Mud required 12.2 ppg</p>					
	TD @	10,715' TVD 11,040' MD			



# KERR-McGEE OIL & GAS ONSHORE LP

## DRILLING PROGRAM

### CASING PROGRAM

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS		
						BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'				3,390	1,880	348,000
SURFACE	8-5/8"	0 to 2,570'	28.00	IJ-55	LTC	0.74	1.56	4.79
PRODUCTION	4-1/2"	0 to 9,975'	11.60	I-80	BTC	1.75	1.11	2.67
	4-1/2"	9,975' to 11,040'	11.60	HCP-110	LTC	10,690	8,650	279,000
		1,065' of HCP-110 pipe				45.63	1.27	27.76

\*Burst on surface casing is controlled by fracture gradient as shoe with gas gradient above.

D.F. = 2.09

1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

2) MASP (Prod Casing) = Pore Pressure at TD - (0.22 psi/ft-partial evac gradient x TD)

(Burst Assumptions: TD = 12.2 ppg)

0.22 psi/ft = gradient for partially evac wellbore

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**MASP 4,318 psi**

3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

(Burst Assumptions: TD = 12.2 ppg)

0.62 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**MABHP 6,676 psi**

### CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	215	60%	15.60	1.18
Option 1			+ 0.25 pps flocele				
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	260	0%	15.60	1.18
			+ 2% CaCl + 0.25 pps flocele				
			Premium cmt + 2% CaCl				
SURFACE			<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>				
Option 2	LEAD	2,070'	65/35 Poz + 6% Gel + 10 pps gilsonite	400	35%	12.60	1.81
			+ 0.25 pps Flocele + 3% salt BWOW				
	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.60	1.18
			+ 0.25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
PRODUCTION	LEAD	4,660'	Premium Lite II + 3% KCl + 0.25 pps	440	40%	11.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	6,380'	50/50 Poz/G + 10% salt + 2% gel	1,560	40%	14.30	1.31
			+ 0.1% R-3				

\*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

\*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

### FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

### ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER:

John Huycke / Emile Goodwin

DATE:

DRILLING SUPERINTENDENT:

John Merkel / Lovel Young

DATE:

**NBU 920-13C1AS**

Surface: 389' FNL, 2,156' FWL (NE/4NW/4)  
BHL: 170' FNL 2,600' FWL (NE/4NW/4)

**NBU 920-13C4BS**

Surface: 405' FNL, 2,146' FWL (NE/4NW/4)  
BHL: 920' FNL 2,100' FWL (NE/4NW/4)

**NBU 920-13D2DS**

(FKA NBU 920-12M4CS)  
Surface: 422' FNL, 2,135' FWL (NE/4NW/4)  
BHL: 518' FNL 450' FWL (NW/4NW/4)

Pad: NBU 920-13C  
Sec. 13 T9S R20E  
Mineral Lease: UTU 0579

Uintah, Utah  
Operator: Kerr-McGee Oil & Gas Onshore LP

Surface Owner: Ute Indian Tribe

**ONSHORE ORDER NO. 1**

***MULTI-POINT SURFACE USE & OPERATIONS PLAN  
SUBMITTED WITH SITE-SPECIFIC INFORMATION***

This Application for Permit to Drill (APD) is filed under the Notice of Staking (NOS) process as stated in Onshore Order No. 1 (OSO #1) and supporting Bureau of Land Management (BLM) and Bureau of Indian Affairs (BIA) documents. NOSs were submitted showing the surface locations in NE/4 NW/4 of Section 13 T9S R20E.

This Surface Use Plan of Operations (SUPO) or 13-point plan provides the site-specific information for the above-referenced wells. This information is to be incorporated by reference into the Master Development Plan (MDP) for Kerr-McGee Oil & Gas Onshore LP (Kerr-McGee). The MDP is available upon request from the BIA-Ft Duchesne Office.

An on-site meeting was held on June 24, 2009. Present were:

- Verlyn Pindell and Dave Gordon – BLM;
- Kolby Kay and Mitch Batty – Timberline Surveying, Inc.
- Tony Kazeck, Jeff Samuels, Raleen White, David Liddell, and Hal Blanchard – Kerr-McGee
- Bucky Secakuku – BIA
- Nick Hall – Grasslands Consulting, Inc.
- Scott Carson – Smiling Lake Consulting
- Keith Montgomery – Montgomery Archaeological Consultants, Inc.

**Directional Drilling:**

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, this well will be directionally drilled in order to access portions of our lease which are otherwise inaccessible due to topography.

**1. Existing Roads:**

- A) Refer to Topo Map A for directions to the location.
- B) Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

**2. Planned Access Roads:**

*See MDP for additional details on road construction.*

Approximately  $\pm 0.03$  miles ( $\pm 145'$ ) of road re-route is proposed. Please refer to the attached Topo Map B. No pipelines will be crossed with the new construction.

*Existence of pipelines; maximum grade; turnouts; major cut and fills, culverts, or bridges; gates, cattle guards, fence cuts, or modifications to existing facilities were determined at the on-site and are typically shown on the attached Exhibits and Topo maps.*

**3. Location of Existing Wells Within a 1-Mile Radius:**

Please refer to Topo Map C.

**4. Location of Existing and Proposed Facilities:**

*See MDP for additional details on Existing and Proposed Facilities.*

This pad will expand the existing pad for the NBU 920-13C well, which is a producing well according to Utah Division of Oil, Gas and Mining (UDOGM) records.

*The following guidelines will apply if the well is productive.*

Approximately  $\pm 1,840'$  ( $\pm 0.35$  miles) of existing 4" pipeline will be upgraded to a 6" buried pipeline. Another approximately  $\pm 660'$  ( $\pm 0.13$  miles) of pipeline is proposed around the pad. Please refer to Topo D for the existing pipeline. Appropriate surface use agreements have been or will be obtained from the Ute Indian Tribe. Pipeline segments will be welded or zaplocked together on disturbed areas in or near the location, whenever possible, and dragged into place

Per the onsite meeting Kerr-McGee will:

- Construct diversion drainages around well pad.
- Move the existing pipeline off the damage area of the well pad.

**5. Location and Type of Water Supply:**

*See MDP for additional details on Location and Type of Water Supply.*



Water for drilling purposes will be obtained from the following sources:

49-2243	Target Trucking Inc.	Green River- Various points
49-2300	R.N. Industries	White River- Various points
49-2298	RNI Trucking	White River- Various points
49-2231	Nile Chapman	Green River- Various points
49-2299	R.N. Industries	Green River- Various points
49-2306	R.N. Industries	White River- Various points

No water well is to be drilled on this lease.

**6. Source of Construction Materials:**

*See MDP for additional details on Source of Construction Materials.*

**7. Methods of Handling Waste Materials:**

*See MDP for additional details on Methods of Handling Waste Materials.*

Any produced water from the proposed well will be contained in a water tank and will then be hauled by truck to one of the pre-approved disposal sites:

RNI in Sec. 5 T9S R22E  
NBU #159 in Sec. 35 T9S R21E  
Ace Oilfield in Sec. 2 T6S R20E  
MC&MC in Sec. 12 T6S R19E  
Pipeline Facility in Sec. 36 T9S R20E  
Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E  
Bonanza Evaporation Pond in Sec. 2 T10S R23E

**8. Ancillary Facilities:**

*See MDP for additional details on Ancillary Facilities.*

None are anticipated.

**9. Well Site Layout: (See Location Layout Diagram)**

*See MDP for additional details on Well Site Layout.*

All pits will be fenced according to the following minimum standards:

- Net wire (39-inch) will be used with at least one strand of barbed wire on top of the net wire. Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.
- The net wire shall be no more than two inches above the ground. The barbed wire shall be three inches over the net wire. Total height of the fence shall be at least 42 inches.
- Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.
- Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.
- All wire shall be stretched, by using a stretching device, before it is attached to corner posts.

**10. Plans for Reclamation of the Surface:**

*See MDP for additional details on Plans for Reclamation of the Surface.*

Kerr-McGee shall call the BIA for the seed mixture prior to starting interim and/or final reclamation actions.

**11. Surface/Mineral Ownership:**

The well pad and access road are located on lands owned by:

Ute Indian Tribe  
PO Box 70  
Fort Duchesne, Utah 84026  
435-722-5141

The mineral ownership is listed below:

United States of America  
Bureau of Land Management  
170 South 500 East  
Vernal, UT 84078  
435-781-4400

**12. Other Information:**

*See MDP for additional details on Other Information.*

The cultural resource reports submitted with the original APD are still applicable because only the bottom hole changed for the NBU 920-13D2DS (FKA NBU 920-12M4CS) and there will be no additional surface disturbance.

**13. Lessee's or Operators' Representative & Certification:**

Kathy Schneebeck Dulnoan  
Staff Regulatory Analyst  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6007

Tommy Thompson  
General Manager, Drilling  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6724


Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

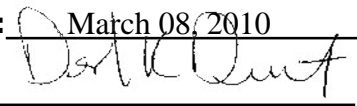
Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

  
Kathy Schneebeck Dulnoan

January 21, 2010  
Date

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>			
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0144868B			
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute Tr			
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES			
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 920-13D2DS			
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0422 FNL 2135 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 13 Township: 09.0S Range: 20.0E Meridian: S		<b>9. API NUMBER:</b> 43047505220000			
<b>PHONE NUMBER:</b> 720 929-6007 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES			
<b>COUNTY:</b> UTAH		<b>STATE:</b> UTAH			
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>					
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>				
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<b>Accepted by the Utah Division of Oil, Gas and Mining</b>		<b>Date:</b> March 08, 2010 <b>By:</b> 			
<b>NAME (PLEASE PRINT)</b> Danielle Piernot	<b>PHONE NUMBER</b> 720 929-6156	<b>TITLE</b> Regulatory Analyst			
<b>SIGNATURE</b> N/A	<b>DATE</b> 3/4/2010				





# KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

## CASING PROGRAM

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS		
						BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'						
						3,390	1,880	348,000
SURFACE	8-5/8"	0 to 2,520	28.00	IJ-55	LTC	0.72	1.59	4.88
						7,780	6,350	201,000
PRODUCTION	4-1/2"	0 to 9,975	11.60	I-80	LTC	1.71	0.92	1.80
						10,690	8,650	279,000
	4-1/2"	9,975 to 11,040	11.60	HCP-110	LTC	45.63	1.25	27.86

1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

2) MASP (Prod Casing) = Pore Pressure at TD - (0.22 psi/ft-partial evac gradient x TD)

(Burst Assumptions: TD = 12.4 ppg)

0.22 psi/ft = gradient for partially evac wellbore

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**MASP 4,430 psi**

3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

(Burst Assumptions: TD = 12.4 ppg)

0.63 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**MABHP 6,993 psi**

## CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	TAIL	500'	Premium cmt + 2% CaCl	215	60%	15.60	1.18
Option 1			+ 0.25 pps flocele				
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	380	0%	15.60	1.18
			+ 2% CaCl + 0.25 pps flocele				
			Premium cmt + 2% CaCl				
SURFACE		<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>					
Option 2	LEAD	2,020'	65/35 Poz + 6% Gel + 10 pps gilsonite	480	35%	12.60	1.81
			+ 0.25 pps Flocele + 3% salt BWOW				
	TAIL	500'	Premium cmt + 2% CaCl	180	35%	15.60	1.18
			+ 0.25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
PRODUCTION	LEAD	4,660'	Premium Lite II + 3% KCl + 0.25 pps	440	40%	11.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	6,380'	50/50 Poz/G + 10% salt + 2% gel	1,560	40%	14.30	1.31
			+ 0.1% R-3				

\*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

\*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

## FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

## ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER:

John Huycke / Emile Goodwin

DATE:

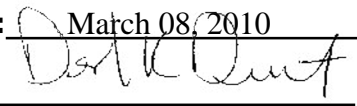
DRILLING SUPERINTENDENT:

Lovel Young

DATE:



**RECEIVED** March 30, 2010

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>			
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0144868B			
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<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH			
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>					
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>				
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<b>Accepted by the Utah Division of Oil, Gas and Mining</b>  <b>Date:</b> March 08, 2010 <b>By:</b> 					
<b>NAME (PLEASE PRINT)</b> Danielle Piernot	<b>PHONE NUMBER</b> 720 929-6156	<b>TITLE</b> Regulatory Analyst			
<b>SIGNATURE</b> N/A	<b>DATE</b> 3/4/2010				





# KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

## CASING PROGRAM

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PRODUCTION	4-1/2"	0 to 9,975	11.60	I-80	LTC	1.71	0.92	1.80
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	4-1/2"	9,975 to 11,040	11.60	HCP-110	LTC	45.63	1.25	27.86

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2) MASP (Prod Casing) = Pore Pressure at TD - (0.22 psi/ft-partial evac gradient x TD)

(Burst Assumptions: TD = 12.4 ppg)

0.22 psi/ft = gradient for partially evac wellbore

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**MASP 4,430 psi**

3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

(Burst Assumptions: TD = 12.4 ppg)

0.63 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**MABHP 6,993 psi**

## CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	TAIL	500'	Premium cmt + 2% CaCl	215	60%	15.60	1.18
Option 1			+ 0.25 pps flocele				
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	380	0%	15.60	1.18
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SURFACE		<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>					
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			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	6,380'	50/50 Poz/G + 10% salt + 2% gel	1,560	40%	14.30	1.31
			+ 0.1% R-3				

\*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

\*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

## FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

## ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER:

John Huycke / Emile Goodwin

DATE:

DRILLING SUPERINTENDENT:

Lovel Young

DATE:

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0144868B
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute Tr
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 920-13D2DS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0422 FNL 2135 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 13 Township: 09.0S Range: 20.0E Meridian: S		<b>9. API NUMBER:</b> 43047505220000
<b>PHONE NUMBER:</b> 720 929-6007 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start:	<input type="checkbox"/> <b>ACIDIZE</b>	
<input checked="" type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion: 3/11/2010	<input type="checkbox"/> <b>ALTER CASING</b>	
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:	<input type="checkbox"/> <b>CASING REPAIR</b>	
<input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> <b>CHANGE TO PREVIOUS PLANS</b>	
	<input type="checkbox"/> <b>CHANGE TUBING</b>	
	<input type="checkbox"/> <b>CHANGE WELL STATUS</b>	
	<input type="checkbox"/> <b>COMMINGLE PRODUCING FORMATIONS</b>	
	<input type="checkbox"/> <b>DEEPEN</b>	
	<input type="checkbox"/> <b>FRACTURE TREAT</b>	
	<input type="checkbox"/> <b>OPERATOR CHANGE</b>	
	<input type="checkbox"/> <b>PLUG AND ABANDON</b>	
	<input type="checkbox"/> <b>PRODUCTION START OR RESUME</b>	
	<input type="checkbox"/> <b>RECLAMATION OF WELL SITE</b>	
	<input type="checkbox"/> <b>REPERFORATE CURRENT FORMATION</b>	
	<input type="checkbox"/> <b>SIDETRACK TO REPAIR WELL</b>	
	<input type="checkbox"/> <b>TUBING REPAIR</b>	
	<input type="checkbox"/> <b>VENT OR FLARE</b>	
	<input type="checkbox"/> <b>WATER SHUTOFF</b>	
	<input type="checkbox"/> <b>SI TA STATUS EXTENSION</b>	
	<input type="checkbox"/> <b>WILDCAT WELL DETERMINATION</b>	
	<input checked="" type="checkbox"/> <b>OTHER</b>	
	OTHER: LEASE INFORMATION	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> THE OPERATOR SUBMITTED A NOTICE OF INTENT SUNDRY FOR A BOTTOM HOLE LOCATION CHANGE ON THE SUBJECT WELL ON 1/21/2010. WITH THIS CHANGE CAME A CHANGE IN THE LEASE NUMBER. THE OPERATOR REQUESTS THAT THE LEASE NUMBER BE CHANGED FROM UTU-0144868B TO UTU-0579.		
Accepted by the <b>Utah Division of</b> <b>Oil, Gas and Mining</b> <b>FOR RECORD ONLY</b> March 11, 2010		
<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 3/11/2010	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0144868B
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute Tr
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 920-13D2DS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0422 FNL 2135 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 13 Township: 09.0S Range: 20.0E Meridian: S		<b>9. API NUMBER:</b> 43047505220000
<b>PHONE NUMBER:</b> 720 929-6007 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UTAH		<b>STATE:</b> UTAH
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start:	<input type="checkbox"/> <b>ACIDIZE</b>	
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input type="checkbox"/> <b>ALTER CASING</b>	
<input checked="" type="checkbox"/> <b>SPUD REPORT</b> Date of Spud: 3/10/2010	<input type="checkbox"/> <b>CASING REPAIR</b>	
<input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> <b>CHANGE TO PREVIOUS PLANS</b>	
	<input type="checkbox"/> <b>CHANGE TUBING</b>	
	<input type="checkbox"/> <b>CHANGE WELL STATUS</b>	
	<input type="checkbox"/> <b>COMMINGLE PRODUCING FORMATIONS</b>	
	<input type="checkbox"/> <b>DEEPEN</b>	
	<input type="checkbox"/> <b>FRACTURE TREAT</b>	
	<input type="checkbox"/> <b>OPERATOR CHANGE</b>	
	<input type="checkbox"/> <b>PLUG AND ABANDON</b>	
	<input type="checkbox"/> <b>PRODUCTION START OR RESUME</b>	
	<input type="checkbox"/> <b>RECLAMATION OF WELL SITE</b>	
	<input type="checkbox"/> <b>REPERFORATE CURRENT FORMATION</b>	
	<input type="checkbox"/> <b>SIDETRACK TO REPAIR WELL</b>	
	<input type="checkbox"/> <b>TUBING REPAIR</b>	
	<input type="checkbox"/> <b>VENT OR FLARE</b>	
	<input type="checkbox"/> <b>WATER SHUTOFF</b>	
	<input type="checkbox"/> <b>SI TA STATUS EXTENSION</b>	
	<input type="checkbox"/> <b>WILDCAT WELL DETERMINATION</b>	
	<input type="checkbox"/> <b>OTHER:</b>	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> MIRU PETE MARTIN BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'. RAN 14" 36.7# SCHEDULE 10 PIPE. CMT W/28 SX READY MIX. SPUD WELL LOCATION ON 3/10/2010 AT 15:00 HRS.		
<b>Accepted by the</b> <b>Utah Division of</b> <b>Oil, Gas and Mining</b> <b>FOR RECORD ONLY</b> March 11, 2010		
<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 3/11/2010	



**RECEIVED** March 30, 2010

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU-0579
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute Tr
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 920-13D2DS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0422 FNL 2135 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 13 Township: 09.0S Range: 20.0E Meridian: S		<b>9. API NUMBER:</b> 43047505220000
<b>PHONE NUMBER:</b> 720 929-6007 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH

**11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER:
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:			
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:			
<input checked="" type="checkbox"/> <b>DRILLING REPORT</b> Report Date: 5/25/2010			

**12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.**  
 FINISHED DRILLING FROM 2780' TO 11057' ON MAY 24, 2010. RAN 4 1/2" 11.6# I-80 PRODUCTION CSG. PUMP 40 BBLS SPACER, LEAD CEMENT W/ 750 SX CLASS G PREM LITE @ 12.5 PPG, 1.98 YD. TAILED CEMENT W/ 1550 SX CLASS G 50/50 POZ MIX @ 14.3 PPG, 1.25 YD. DISPLACED W/ 170 BBLS WATER, BUMPED PLUG @ 4015 PSI. FULL RETURNS THROUGH OUT JOB W/ 40 BBS SPACER & 70 BBLS CEMENT TO SURFACE. RD CEMENTERS AND CLEANED PITS. RELEASED PIONEER RIG # 54 ON MAY 25, 2010 @ 00:00 HRS.

<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 5/26/2010	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU-0579
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute Tr
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 920-13D2DS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0422 FNL 2135 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 13 Township: 09.0S Range: 20.0E Meridian: S		<b>9. API NUMBER:</b> 43047505220000
<b>PHONE NUMBER:</b> 720 929-6007 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input checked="" type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION	
<input checked="" type="checkbox"/> <b>DRILLING REPORT</b> Report Date: 9/11/2010	OTHER: <input style="width: 100px;" type="text"/>	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> THE SUBJECT WELL WAS PLACED ON PRODUCTION ON SEPTEMBER 11, 2010 AT 3:00 P.M. THE CHRONOLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT.		
<b>Accepted by the</b> <b>Utah Division of</b> <b>Oil, Gas and Mining</b> <b>FOR RECORD ONLY</b> September 13, 2010		
<b>NAME (PLEASE PRINT)</b> Gina Becker	<b>PHONE NUMBER</b> 720 929-6086	<b>TITLE</b> Regulatory Analyst II
<b>SIGNATURE</b> N/A	<b>DATE</b> 9/13/2010	

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTFORM APPROVED  
OMB No. 1004-0137  
Expires: July 31, 2010

## WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Dry <input type="checkbox"/> Other			5. Lease Serial No. UTU0579		
b. Type of Completion <input checked="" type="checkbox"/> New Well <input type="checkbox"/> Work Over <input type="checkbox"/> Deepen <input type="checkbox"/> Plug Back <input type="checkbox"/> Diff. Resvr. Other _____			6. If Indian, Allottee or Tribe Name		
2. Name of Operator KERR-MCGEE OIL&GAS ONSHORE Mail: GINA.BECKER@ANADARKO.COM			7. Unit or CA Agreement Name and No. UTU63047A		
3. Address P.O. BOX 173779 DENVER, CO 80217			8. Lease Name and Well No. NBU 920-13D2DS		
3a. Phone No. (include area code) Ph: 720-929-6086			9. API Well No. 43-047-50522		
4. Location of Well (Report location clearly and in accordance with Federal requirements)* At surface NENW 422FNL 2135FWL 40.04159 N Lat, 109.61715 W Lon At top prod interval reported below NWNW 529FNL 446FWL At total depth NWNW 550FNL 462FWL			10. Field and Pool, or Exploratory NATURAL BUTTES		
14. Date Spudded 03/10/2010			11. Sec., T., R., M., or Block and Survey or Area Sec 13 T09S R20E Mer SLB		
15. Date T.D. Reached 05/24/2010			12. County or Parish UINTAH		
16. Date Completed <input type="checkbox"/> D & A <input checked="" type="checkbox"/> Ready to Prod. 09/11/2010			13. State UT		
17. Elevations (DF, KB, RT, GL)* 4710 GL					
18. Total Depth: MD 11057 TVD 10732			19. Plug Back T.D.: MD 10979 TVD 10654		
20. Depth Bridge Plug Set: MD TVD					
21. Type Electric & Other Mechanical Logs Run (Submit copy of each) GR/CCL-RAW-CHI-CBL-RMTE			22. Was well cored? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit analysis) Was DST run? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit analysis) Directional Survey? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes (Submit analysis)		

## 23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
20.000	14.000 J-55	36.7		40		28			
11.000	8.625 IJ-55	28.0		2751		585			
7.875	4.500 I-80	11.6		11026		2300			

## 24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.375	10436							

## 25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) MESAVERDE	8776	10886	8776 TO 10886	0.360	288	OPEN
B) WSMVD						
C)						
D)						

## 27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
8776 TO 10886	PUMP 12,184 BBLs SLICK H2O & 444,812 LBS 30/50 SAND.

## 28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
09/11/2010	09/19/2010	24	→	0.0	2360.0	400.0			FLOWES FROM WELL
Choke Size	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
20/64	SI	2359.0	→	0	2360	400		PGW	

## 28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
	SI		→						

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #95834 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

RECEIVED

NOV 02 2010

DIV. OF OIL, GAS &amp; MINING

## 28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

## 28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

## 29. Disposition of Gas(Sold, used for fuel, vented, etc.)

SOLD

## 30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

## 31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top Meas. Depth
GREEN RIVER	2021				
BIRD'S NEST	2163				
MAHOGANY	2819				
WASATCH	5495	8763			
MESAVERDE	8763	11057	TD		

## 32. Additional remarks (include plugging procedure):

CHRONO, DRILLING & COMPLETION HISTORY & DIRECTIONAL SURVEYS ARE ATTACHED.

COMPLETION CHRONO DETAIL INDIVIDUAL FRAC STAGES.

## 33. Circle enclosed attachments:

- |   |                    |               |                       |
|---|--------------------|---------------|-----------------------|
| 1. Electrical/Mechanical Logs (1 full set req'd.)     | 2. Geologic Report | 3. DST Report | 4. Directional Survey |
| 5. Sundry Notice for plugging and cement verification | 6. Core Analysis   | 7 Other:      |                       |

## 34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

Electronic Submission #95834 Verified by the BLM Well Information System.  
For KERR-MCGEE OIL&GAS ONSHORE,L.P, sent to the Vernal

Name (please print) GINA T BECKER

Title REGULATORY ANALYST II

Signature



(Electronic Submission)

Date 10/26/2010

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**\*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\***

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 920-13D2DS YELLOW			Spud Conductor: 3/10/2010			Spud Date: 3/27/2010		
Project: UTAH-UINTAH			Site: NBU 920-13C PAD			Rig Name No: MILES-GRAY 1/1		
Event: COMPLETION			Start Date: 8/27/2010			End Date: 9/10/2010		
Active Datum: RKB @4,729.00ft (above Mean Sea Level)			UWI: NE/NW/0/422/N/2135/W/13/0/0/6/PM/N/518.00/W/0/450.00/0/0					
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
8/27/2010	7:00 - 13:00	6.00	COMP	37	B	P		MIRU B & C QUICKTEST, PRESSURE TEST CSG AND FRAC VALVE TO 7000#, OK, ( PERF STG #1 ) R/U CASED HOLE WIRELINE RIH, W/ PERF GUNS, PERF THE MESAVERDE @ 10882' - 10886', 10729' - 10731', 10702' - 10704', 4-SPF, USING 3 3/8" SCALLOP GUNS, 23 gm, 0.36" HOLE, 90° PHS, 32 HOLES, SWI
8/30/2010	7:00 - 8:00	1.00	COMP	36	E	P		( FRAC STG #1 ) WHP = 1700 #, BRK DN PERF 4365 # @ 5 B/M, INJ-RT = 49 B/M, INJ-P = 5871 #, ISIP = 2788 #, F.G.=.69 , PUMP 3 BBLS 15% HCL AHEAD OF INJ, CALC 32/32 PERF OPEN, PUMP 970 BBLS SLK WTR & 31982 # 20/40 TLC SAND, ISIP = 3312 #, F.G. =.74 , NPI = 524 #, MP = 6059 #, MR =57 B/M, AP = 5000 #, AR = 49 B/M, 31982 # TLC SAND, COMMENTS =SCREENED OFF / FLOWED WELL BACK & REFLUSHED [ FRAC TECH WAS BROKE DOWN FOR APPROX 4 HRS]
	8:00 - 9:00	1.00	COMP	37	B	P		( PERF STG #2 ) RIH W/ HALLIURTON 8K CBP AND PERF GUNS, SET CBP @ 10652' , PERF THE MESAVERDE @ 10610' - 10612', 4-SPF, 10552' - 10554', 4-SPF, 10539' - 10541', 4-SPF, 10513' - 10515', 3-SPF, 10478' - 10480', 3-SPF , USING 3 3/8" SCALLOP GUNS, 23gm, 0.36" HOLE 90° PHS, 36 HOLES, SWIFN.
8/31/2010	7:00 - 8:00	1.00	COMP	36	E	P		( FRAC STG #2 ) WHP = 2553 #, BRK DN PERF 4248 # @ 7.3 B/M, INJ-RT =47 B/M, INJ-P = 5818 #, ISIP = 3380 #, F.G.75 CALC 36/36 PERF OPEN, PUMP 931 BBLS SLK WTR & 29990# OTTAWA SAND, ISIP = 3528 #, F.G. =.77 , NPI = 148 #, MP = 7035 #, MR = 51 B/M, AP = 5200 #, AR = 50 B/M, # SAND, # TLC SAND, COMMENTS =ALL TLC IN FIRST 3 STGS OF WELL
	8:00 - 9:00	1.00	COMP	37	B	P		( PERF STG #3 ) RIH W/ HALLIURTON 8K CBP AND PERF GUNS, SET CBP @ 10464', PERF THE MESAVERDE @ 10430'-10434' 4 SPF, 10406'-10408' 4 SPF, 10314'-10316' 3 SPF, 10258'-10260' 3 SPF , USING 3 3/8" SCALLOP GUNS, 23gm, 0.36" HOLE 90° PHS, 36 HOLES,
	9:00 - 10:00	1.00	COMP	36	E	P		( FRAC STG #3 ) WHP = 2888 #, BRK DN PERF 6953 # @ 10.8 B/M, INJ-RT = 34 B/M, INJ-P = 5230 #, ISIP = 3181 #, F.G.74 CALC 21/36 PERF OPEN, PUMP 928 BBLS SLK WTR & 17552 # OTTAWA SAND, ISIP = 3966 #, F.G. =.82 , NPI = 785 #, MP = 6953 #, MR = 46.5 B/M, AP = 5400 #, AR = 45 B/M, # SAND, # TLC SAND, COMMENTS =ALL SAND TLC



**US ROCKIES REGION**

**Operation Summary Report**

Well: NBU 920-13D2DS YELLOW		Spud Conductor: 3/10/2010	Spud Date: 3/27/2010
Project: UTAH-UINTAH	Site: NBU 920-13C PAD		Rig Name No: MILES-GRAY 1/1
Event: COMPLETION	Start Date: 8/27/2010	End Date: 9/10/2010	
Active Datum: RKB @4,729.00ft (above Mean Sea Level)		UWI: NE/NW/0/422/N/2135/W/13/0/0/6/PM/N/518.00/W/0/450.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	10:00 - 11:00	1.00	COMP	37	B	P		( PERF STG #4 ) RIH W/ HALLIURTON 8K CBP AND PERF GUNS, SET CBP @ 10183', PERF THE MESAVERDE @ 10081'-10083' 4 SPF, 10055'-10057' 4 SPF, 9955'-9957' 4 SPF, 9920'-9922' 3 SPF, 9862'-9864' 3 SPF , USING 3 3/8" SCALLOP GUNS, 23gm, 0.36" HOLE 90° PHS, 36 HOLES,
	11:00 - 12:00	1.00	COMP	36	E	P		( FRAC STG #4) WHP = 1700 #, BRK DN PERF 4500 # @ 5.3 B/M, INJ-RT = 39 B/M, INJ-P = 6015 #, ISIP = 2766 #, F.G.71 CALC 18/36 PERF OPEN, PUMP 1287 BBLS SLK WTR & 49555 # OTTAWA SAND, ISIP = 3050 #, F.G. =.74 , NPI = 284 #, MP = 6494 #, MR = 51.4 B/M, AP = 5700 #, AR = 48.5 B/M, # SAND, 5000 # TLC SAND, COMMENTS =
	12:00 - 13:00	1.00	COMP	37	B	P		( PERF STG #5 ) RIH W/ HALLIURTON 8K CBP AND PERF GUNS, SET CBP @ 9845', PERF THE MESAVERDE @ 9813'-9815' 4 SPF, 9787'-9789' 4 SPF, 9752'-9754' 4 SPF, 9712'-9714' 3 SPF, 9598'-9600' 3 SPF , USING 3 3/8" SCALLOP GUNS, 23gm, 0.36" HOLE 90° PHS, 36 HOLES, SWIFN. HSM, REVIEW PERF & FRAC
9/1/2010	6:30 - 6:45	0.25	COMP	48		P		( FRAC STG #5 ) WHP = 2071 #, BRK DN PERF 5116 # @ 10.8 B/M, INJ-RT =51 B/M, INJ-P = 5281 #, ISIP = 2845 #, F.G.73 CALC 36/36 PERF OPEN, PUMP 1238 BBLS SLK WTR & 47037# OTTAWA SAND, ISIP = 3005 #, F.G. =.74 , NPI = 160 #, MP = 5895 #, MR = 54.8 B/M, AP = 4700 #, AR = 51 B/M, # SAND, 5000 # TLC SAND, COMMENTS =
	6:45 - 8:00	1.25	COMP					( PERF STG #6 ) RIH W/ HALLIURTON 8K CBP AND PERF GUNS, SET CBP @ 9500', PERF THE MESAVERDE @ 9396'-9400' 4 SPF, 9368'-9370' 4 SPF, 9320'-9322' 4 SPF, 9301'-9303' 3 SPF , USING 3 3/8" SCALLOP GUNS, 23gm, 0.36" HOLE 90° PHS, 38 HOLES,
	8:00 - 9:00	1.00	COMP					( FRAC STG #6 ) WHP = 1309 #, BRK DN PERF 5873 # @ 8.9 B/M, INJ-RT =50.3 B/M, INJ-P = 4905 #, ISIP = 2788 #, F.G.73 CALC 38/38 PERF OPEN, PUMP 762 BBLS SLK WTR & 26288 # OTTAWA SAND, ISIP = 3118 #, F.G. =.76 , NPI =330 #, MP = 5873 #, MR = 58.3 B/M, AP = 4500 #, AR = 50.8 B/M, # SAND, 5000# TLC SAND, COMMENTS =
	9:00 - 10:00	1.00	COMP					( PERF STG #7 ) RIH W/ HALLIURTON 8K CBP AND PERF GUNS, SET CBP @ 9251', PERF THE MESAVERDE @ 9153'-9155' 4 SPF, 9120'-9121' 4 SPF, 9109'-9111' 4 SPF, 9080'-9082' 4 SPF, 9003'-9004' 4 SPF, 8986'-8988' 3 SPF , USING 3 3/8" SCALLOP GUNS, 23gm, 0.36" HOLE 90° PHS, 38 HOLES,
	10:00 - 11:00	1.00	COMP					

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 920-13D2DS YELLOW		Spud Conductor: 3/10/2010	Spud Date: 3/27/2010
Project: UTAH-UINTAH	Site: NBU 920-13C PAD		Rig Name No: MILES-GRAY 1/1
Event: COMPLETION	Start Date: 8/27/2010	End Date: 9/10/2010	
Active Datum: RKB @4,729.00ft (above Mean Sea Level)		UWI: NE/NW/0/422/N/2135/W/13/0/0/6/PM/N/518.00/W/0/450.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	11:00 - 13:00	2.00	COMP					( FRAC STG #7 ) WHP = 1377 #, BRK DN PERF 4114 # @ 8.5 B/M, INJ-RT =54.7 B/M, INJ-P = 4700 #, ISIP = 2339 #, F.G.69 CALC 38/38 PERF OPEN, PUMP 3842 BBLS SLK WTR & 145889# OTTAWA SAND, ISIP = 2760 #, F.G. =.74 , NPI = 421 #, MP = 5861 #, MR = 57.9 B/M, AP = 4500 #, AR = 55 B/M, # SAND, 5000# TLC SAND, COMMENTS =
	13:00 - 14:00	1.00	COMP					( PERF STG #8 ) RIH W/ HALLIURTON 8K CBP AND PERF GUNS, SET CBP @ 8946', PERF THE MESAVERDE @ 8914'-8916' 4 SPF, 8901'-8903' 4 SPF, 8876'-8878' 4 SPF, 8788'-8790' 3 SPF, 8776'-8778' 3 SPF , USING 3 3/8" SCALLOP GUNS, 23gm, 0.36" HOLE 90° PHS, 36 HOLES,
	14:00 - 15:00	1.00	COMP					( FRAC STG #8 ) WHP = 1969 #, BRK DN PERF 3323 # @ 8.3 B/M, INJ-RT = 50.3 B/M, INJ-P = 4700 #, ISIP = 2657 #, F.G.73 CALC 36/36 PERF OPEN, PUMP 2226 BBLS SLK WTR & 96519 # OTTAWA SAND, ISIP = 2868 #, F.G. =.76 , NPI = 211 #, MP = 5064 #, MR = 51.9 B/M, AP = 4100 #, AR = 50.5 B/M, # SAND, 5000 # TLC SAND, COMMENTS = SET TOP KILL @ 8726'
	15:00 - 16:00	1.00	COMP					TOTAL SAND=444812# TOTAL WTR=12184 BBLS
9/9/2010	7:00 - 7:30	0.50	COMP	48		P		HSM, WORKING BY WELLS WITH PRESSURE.
	7:30 - 15:00	7.50	COMP	31	I	P		TALLY & PU 275 JTS 23/8 L-80 OFF FLOAT. TAG UP @ 8701 ' L/D 2 JTS EOT @ 8654 ' RU DRLG EQUIP PREP TO D/O IN AM. SWI SDFN.
9/10/2010	7:00 - 7:30	0.50	COMP	48		P		HSM, MAKING SURE FLOW BACK LINE IS SECURE BEFORE DRILLING PLUGS.

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 920-13D2DS YELLOW		Spud Conductor: 3/10/2010		Spud Date: 3/27/2010	
Project: UTAH-UINTAH		Site: NBU 920-13C PAD			Rig Name No: MILES-GRAY 1/1
Event: COMPLETION		Start Date: 8/27/2010		End Date: 9/10/2010	
Active Datum: RKB @4,729.00ft (above Mean Sea Level)			UWI: NE/NW/0/422/N/2135/W/13/0/0/6/PM/N/518.00/W/0/450.00/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	7:30 - 16:00	8.50	COMP	44	C	P		<p>BROKE CIRC CONVENTIONAL. TEST BOPS TO 3,000# PSI, RIH.</p> <p>C/O 25' SAND TAG 1ST PLUG @ 8726' DRL PLG IN 7 MIN 500# PSI INCREASE RIH.</p> <p>C/O 20' SAND TAG 2ND PLUG @ 8946' DRL PLG IN 4 MIN 500# PSI INCREASE RIH.</p> <p>C/O 96' SAND TAG 3RD PLUG @ 9251' DRL PLG IN 3 MIN 600# PSI INCREASE RIH.</p> <p>C/O 30' SAND TAG 4TH PLUG @ 9500' DRL PLG IN 4 MIN 300# PSI INCREASE RIH.</p> <p>C/O 60' SAND TAG 5TH PLUG @ 9845' DRL PLG IN 7 MIN 200# PSI INCREASE RIH.</p> <p>C/O 95' SAND TAG 6TH PLUG @ 10,183' DRL PLG IN 4 MIN 200# PSI INCREASE RIH.</p> <p>C/O 30' SAND TAG 7TH PLUG @ 10,464' DRL PLG IN 4 MIN 600# PSI INCREASE RIH.</p> <p>C/O 35' SAND TAG 8TH PLUG @ 10,652' DRL PLG IN 3 MIN 700# PSI INCREASE RIH.</p> <p>C/O TO PBTD @ 10,978' CIRC CLEAN, RD SWIVEL. L/D 17 JTS TBG, LAND TBG ON 329 JTS. ND BOPS NU WH, PMP OFF BIT LET WELL SET FOR 30 MIN FOR BIT TO FALL, TURN OVER TO FB CREW. RD MOVE OVER &amp; RU ON NBU 920- 13C. NU WELL HEAD.SDFWE</p> <p>KB = 19'</p> <p>71/16 HANGER .83'</p> <p>329 JTS 23/8 L-80 = 10,413.78'</p> <p>POBS &amp; 1.875 X/N = 2.20'</p> <p>EOT @ 10,435.81'</p> <p>354 JTS HAULED OUT</p> <p>329 LANDED</p> <p>25 TO RETURN</p> <p>TWTR = 12,384 BBLs</p> <p>TWR = 1900 BBLs</p> <p>TWLTR = 10,484 BBLs</p> <p>7 AM FLBK REPORT: CP 2175#, TP 1950#, 20/64"</p> <p>CK, 65 BWPH, MED SAND, - GAS</p> <p>TTL BBLs RECOVERED: 3167</p> <p>BBLs LEFT TO RECOVER: 9217</p> <p>WELL TURNED TO SALES @ 1500 HR ON 9/11/10 - 1400 MCFD, 1400 BWPD, CP 2450#, FTP 2000#, CK 20/64"</p>
9/11/2010	7:00 -			33	A			
	15:00 -		PROD	50				

**US ROCKIES REGION**

**Operation Summary Report**

Well: NBU 920-13D2DS YELLOW		Spud Conductor: 3/10/2010		Spud Date: 3/27/2010	
Project: UTAH-UINTAH		Site: NBU 920-13C PAD			Rig Name No: MILES-GRAY 1/1
Event: COMPLETION		Start Date: 8/27/2010		End Date: 9/10/2010	
Active Datum: RKB @4,729.00ft (above Mean Sea Level)		UWI: NE/NW/0/422/N/2135/W/13/0/0/6/PM/N/518.00/W/0/450.00/0/0			

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
9/12/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 3700#, TP 2050#, 20/64" CK, 55 BWPH, MED SAND, - GAS TTL BBLS RECOVERED: 4556 BBLS LEFT TO RECOVER: 7828
9/13/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 3300#, TP 1925#, 20/64" CK, 43 BWPH, MED SAND, - GAS TTL BBLS RECOVERED: 5655 BBLS LEFT TO RECOVER: 6729
9/18/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 3175#, TP 1950#, 20/64" CK, 38 BWPH, MED SAND, - GAS TTL BBLS RECOVERED: 6749 BBLS LEFT TO RECOVER: 5635
9/19/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 2700#, TP 1700#, 20/64" CK, 27 BWPH, LIGHT SAND, - GAS TTL BBLS RECOVERED: 7484 BBLS LEFT TO RECOVER: 4900
	7:00 -			50				WELL IP'D ON 9/19/10 - 2360 MCFD, 0 BOPD, 400 BWPD, CP 2359#, FTP 1424#, CK 20/64", LP 83#, 24 HRS
9/20/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 2500#, TP 1500#, 20/64" CK, 25 BWPH, LIGHT SAND, - GAS TTL BBLS RECOVERED: 8102 BBLS LEFT TO RECOVER: 4282

**1 General****1.1 Customer Information**

Company	US ROCKIES REGION
Representative	
Address	

**1.2 Well Information**

Well	NBU 920-13D2DS YELLOW	Wellbore No.	OH
Well Name	NBU 920-13D2DS	Common Name	NBU 920-13D2DS
Project	UTAH-UINTAH	Site	NBU 920-13C PAD
Vertical Section	265.62 (°)	North Reference	True
Azimuth			
Origin N/S	0.0 (ft)	Origin E/W	0.0 (ft)
Spud Date	3/27/2010	UWI	NE/NW/0/422/N/2135/W/13/0/0/6/PM/N/518.00/ W/0/450.00/0/0
Active Datum	RKB @4,729.00ft (above Mean Sea Level)		

**2 Survey Name****2.1 Survey Name: Survey #1**

Survey Name	Survey #1	Company	SCIENTIFIC DRILLING
Started	3/26/2010	Ended	
Tool Name	MWD	Engineer	KYLE

**2.1.1 Tie On Point**

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)
15.00	0.00	0.00	15.00	0.00	0.00

**2.1.2 Survey Stations**

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
3/26/2010	Tie On	15.00	0.00	0.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NORMAL	104.00	0.57	29.36	104.00	0.39	0.22	-0.25	0.64	0.64	0.00	29.36
	NORMAL	133.00	0.60	22.56	133.00	0.65	0.35	-0.39	0.26	0.10	-23.45	-70.06
	NORMAL	162.00	0.51	344.74	162.00	0.92	0.37	-0.44	1.27	-0.31	-130.41	-122.23
	NORMAL	193.00	0.94	299.33	192.99	1.17	0.11	-0.20	2.21	1.39	-146.48	-77.38
	NORMAL	223.00	1.24	289.30	222.99	1.40	-0.41	0.30	1.18	1.00	-33.43	-37.54
	NORMAL	250.00	2.04	279.15	249.98	1.57	-1.16	1.04	3.14	2.96	-37.59	-25.08
	NORMAL	279.00	2.49	276.79	278.95	1.73	-2.29	2.15	1.58	1.55	-8.14	-12.89
	NORMAL	309.00	3.13	271.79	308.92	1.83	-3.76	3.61	2.28	2.13	-16.67	-23.47
	NORMAL	338.00	3.36	267.97	337.87	1.83	-5.40	5.24	1.09	0.79	-13.17	-45.15
	NORMAL	367.00	3.96	265.05	366.81	1.71	-7.25	7.10	2.17	2.07	-10.07	-18.72
	NORMAL	395.00	4.45	266.39	394.74	1.56	-9.29	9.15	1.78	1.75	4.79	12.01
	NORMAL	425.00	5.01	265.51	424.63	1.38	-11.76	11.62	1.88	1.87	-2.93	-7.82
	NORMAL	455.00	5.44	264.97	454.51	1.16	-14.48	14.35	1.44	1.43	-1.80	-6.79
	NORMAL	484.00	6.03	265.77	483.36	0.92	-17.37	17.25	2.05	2.03	2.76	8.11
	NORMAL	514.00	6.76	265.38	513.18	0.67	-20.70	20.59	2.44	2.43	-1.30	-3.60
	NORMAL	544.00	7.19	264.83	542.96	0.35	-24.33	24.24	1.45	1.43	-1.83	-9.10
	NORMAL	574.00	7.75	265.59	572.70	0.03	-28.22	28.14	1.90	1.87	2.53	10.38
	NORMAL	604.00	8.11	265.08	602.41	-0.31	-32.35	32.27	1.22	1.20	-1.70	-11.31

## 2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
3/26/2010	NORMAL	634.00	8.70	266.10	632.09	-0.64	-36.72	36.66	2.03	1.97	3.40	14.69
	NORMAL	664.00	9.42	267.19	661.72	-0.92	-41.43	41.38	2.47	2.40	3.63	13.95
	NORMAL	694.00	10.02	266.72	691.29	-1.19	-46.49	46.45	2.02	2.00	-1.57	-7.77
	NORMAL	724.00	10.31	266.09	720.82	-1.52	-51.78	51.74	1.04	0.97	-2.10	-21.29
	NORMAL	754.00	11.01	266.01	750.30	-1.90	-57.31	57.29	2.33	2.33	-0.27	-1.25
	NORMAL	784.00	11.63	265.43	779.71	-2.34	-63.18	63.18	2.10	2.07	-1.93	-10.69
	NORMAL	814.00	12.32	265.19	809.06	-2.85	-69.39	69.40	2.31	2.30	-0.80	-4.25
	NORMAL	844.00	12.90	265.62	838.34	-3.38	-75.92	75.95	1.96	1.93	1.43	9.40
	NORMAL	874.00	13.50	264.67	867.54	-3.96	-82.74	82.80	2.13	2.00	-3.17	-20.34
	NORMAL	904.00	13.87	264.41	896.69	-4.63	-89.81	89.90	1.25	1.23	-0.87	-9.57
	NORMAL	934.00	14.53	263.38	925.78	-5.42	-97.12	97.25	2.36	2.20	-3.43	-21.45
	NORMAL	964.00	15.27	264.43	954.77	-6.23	-104.79	104.96	2.63	2.47	3.50	20.55
	NORMAL	994.00	15.85	265.51	983.67	-6.94	-112.81	113.01	2.16	1.93	3.60	27.06
	NORMAL	1,024.00	16.44	265.13	1,012.48	-7.62	-121.12	121.35	2.00	1.97	-1.27	-10.34
	NORMAL	1,054.00	16.90	263.77	1,041.22	-8.45	-129.69	129.96	2.01	1.53	-4.53	-40.95
	NORMAL	1,084.00	17.37	264.25	1,069.89	-9.37	-138.48	138.79	1.64	1.57	1.60	16.98
	NORMAL	1,114.00	17.77	264.63	1,098.49	-10.25	-147.49	147.84	1.39	1.33	1.27	16.18
	NORMAL	1,144.00	18.53	265.11	1,127.00	-11.09	-156.80	157.19	2.58	2.53	1.60	11.36
	NORMAL	1,174.00	19.17	264.88	1,155.39	-11.93	-166.46	166.88	2.15	2.13	-0.77	-6.73
	NORMAL	1,204.00	19.77	265.19	1,183.67	-12.80	-176.42	176.88	2.03	2.00	1.03	9.92
	NORMAL	1,234.00	20.30	265.48	1,211.86	-13.63	-186.66	187.16	1.80	1.77	0.97	10.75
	NORMAL	1,264.00	20.60	265.65	1,239.97	-14.44	-197.11	197.64	1.02	1.00	0.57	11.28
	NORMAL	1,294.00	21.25	266.45	1,267.99	-15.18	-207.80	208.35	2.37	2.17	2.67	24.10
	NORMAL	1,324.00	21.85	266.00	1,295.89	-15.91	-218.80	219.37	2.07	2.00	-1.50	-15.61
	NORMAL	1,354.00	22.15	266.25	1,323.71	-16.67	-230.01	230.61	1.05	1.00	0.83	17.45
	NORMAL	1,384.00	22.75	266.33	1,351.43	-17.41	-241.44	242.06	2.00	2.00	0.27	2.95
	NORMAL	1,414.00	23.10	265.64	1,379.06	-18.23	-253.10	253.75	1.47	1.17	-2.30	-37.84
	NORMAL	1,444.00	23.37	266.02	1,406.58	-19.06	-265.03	265.71	4.35	-4.30	-1.70	-171.09
	NORMAL	1,474.00	23.80	266.19	1,434.07	-19.88	-277.00	277.71	1.45	1.43	0.57	9.07
	NORMAL	1,504.00	24.29	265.20	1,461.47	-20.80	-289.19	289.94	2.12	1.63	-3.30	-39.91
	NORMAL	1,594.00	24.35	264.23	1,543.48	-24.21	-326.10	326.99	0.45	0.07	-1.08	-81.90
	NORMAL	1,684.00	25.03	263.74	1,625.25	-28.15	-363.48	364.57	0.79	0.76	-0.54	-16.97
	NORMAL	1,774.00	25.39	262.71	1,706.68	-32.68	-401.55	402.87	0.63	0.40	-1.14	-51.10
	NORMAL	1,864.00	26.01	264.67	1,787.78	-36.96	-440.34	441.87	1.17	0.69	2.18	54.78
	NORMAL	1,954.00	25.80	264.19	1,868.74	-40.77	-479.47	481.18	0.33	-0.23	-0.53	-135.26
	NORMAL	2,044.00	26.12	266.28	1,949.66	-44.04	-518.73	520.58	1.08	0.36	2.32	71.66
	NORMAL	2,134.00	25.82	266.17	2,030.57	-46.64	-558.05	559.98	0.34	-0.33	-0.12	-170.93
	NORMAL	2,224.00	24.92	267.27	2,111.89	-48.85	-596.55	598.54	1.13	-1.00	1.22	152.86
	NORMAL	2,314.00	25.45	267.06	2,193.33	-50.74	-634.80	636.82	0.60	0.59	-0.23	-9.67
	NORMAL	2,404.00	24.12	265.99	2,275.04	-53.02	-672.46	674.54	1.56	-1.48	-1.19	-161.85
	NORMAL	2,494.00	22.96	264.77	2,357.55	-55.91	-708.28	710.49	1.40	-1.29	-1.36	-157.77
	NORMAL	2,584.00	22.88	266.07	2,440.45	-58.71	-743.22	745.53	0.57	-0.09	1.44	99.58
	NORMAL	2,674.00	22.65	265.14	2,523.44	-61.38	-777.94	780.36	0.47	-0.26	-1.03	-123.01
	NORMAL	2,734.00	22.69	264.28	2,578.80	-63.51	-800.97	803.48	0.56	0.07	-1.43	-83.52
	NORMAL	2,800.00	22.77	265.56	2,639.67	-65.77	-826.37	828.98	0.76	0.12	1.94	81.40
	NORMAL	2,863.00	22.78	265.30	2,697.76	-67.71	-850.68	853.37	0.16	0.02	-0.41	-84.45
	NORMAL	2,958.00	22.61	265.19	2,785.41	-70.75	-887.21	890.02	0.18	-0.18	-0.12	-166.03
	NORMAL	3,053.00	23.74	264.88	2,872.74	-73.98	-924.45	927.40	1.20	1.19	-0.33	-6.30
	NORMAL	3,148.00	24.27	267.04	2,959.52	-76.70	-963.00	966.04	1.08	0.56	2.27	59.89
	NORMAL	3,242.00	24.05	264.73	3,045.29	-79.46	-1,001.37	1,004.51	1.03	-0.23	-2.46	-104.15
	NORMAL	3,337.00	25.33	265.45	3,131.61	-82.85	-1,040.90	1,044.19	1.38	1.35	0.76	13.55
	NORMAL	3,432.00	24.61	264.04	3,217.73	-86.51	-1,080.83	1,084.28	0.98	-0.76	-1.48	-141.06
	NORMAL	3,527.00	24.30	262.91	3,304.20	-90.98	-1,119.91	1,123.58	0.59	-0.33	-1.19	-124.05
	NORMAL	3,622.00	26.90	266.64	3,389.88	-94.65	-1,160.77	1,164.60	3.22	2.74	3.93	33.49
	NORMAL	3,716.00	26.58	268.17	3,473.82	-96.57	-1,203.01	1,206.88	0.81	-0.34	1.63	115.61
	NORMAL	3,811.00	25.08	264.22	3,559.34	-99.28	-1,244.29	1,248.24	2.40	-1.58	-4.16	-132.84



## 2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
3/26/2010	NORMAL	3,906.00	23.21	260.80	3,646.03	-104.30	-1,282.81	1,287.03	2.46	-1.97	-3.60	-144.75
	NORMAL	4,001.00	22.19	262.00	3,733.67	-109.79	-1,319.06	1,323.59	1.18	-1.07	1.26	156.13
	NORMAL	4,096.00	23.48	267.04	3,821.23	-113.26	-1,355.73	1,360.42	2.47	1.36	5.31	58.93
	NORMAL	4,191.00	23.04	264.23	3,908.51	-116.11	-1,393.12	1,397.92	1.26	-0.46	-2.96	-112.92
	NORMAL	4,285.00	20.84	262.39	3,995.70	-120.17	-1,428.00	1,433.01	2.45	-2.34	-1.96	-163.50
	NORMAL	4,380.00	18.99	261.51	4,085.01	-124.69	-1,460.04	1,465.30	1.97	-1.95	-0.93	-171.21
	NORMAL	4,475.00	17.85	260.72	4,175.14	-129.32	-1,489.70	1,495.23	1.23	-1.20	-0.83	-168.02
	NORMAL	4,570.00	16.36	264.06	4,265.94	-133.06	-1,517.38	1,523.11	1.88	-1.57	3.52	148.19
	NORMAL	4,665.00	16.18	266.34	4,357.14	-135.29	-1,543.90	1,549.72	0.70	-0.19	2.40	106.83
	NORMAL	4,759.00	15.39	271.35	4,447.60	-135.83	-1,569.44	1,575.23	1.68	-0.84	5.33	122.49
	NORMAL	4,854.00	13.37	268.10	4,539.62	-135.90	-1,593.02	1,598.75	2.29	-2.13	-3.42	-159.79
	NORMAL	4,949.00	11.87	271.17	4,632.32	-136.06	-1,613.77	1,619.45	1.73	-1.58	3.23	157.40
	NORMAL	5,043.00	10.90	273.84	4,724.47	-135.30	-1,632.31	1,637.87	1.15	-1.03	2.63	154.52
	NORMAL	5,138.00	9.85	275.92	4,817.92	-133.89	-1,649.35	1,654.76	1.19	-1.11	2.40	159.76
	NORMAL	5,233.00	8.18	281.02	4,911.74	-131.76	-1,664.07	1,669.27	1.95	-1.76	5.37	156.93
	NORMAL	5,328.00	5.80	281.11	5,006.03	-129.54	-1,675.42	1,680.42	2.51	-2.51	0.09	179.78
	NORMAL	5,423.00	4.92	280.67	5,100.61	-127.86	-1,684.13	1,686.98	0.93	-0.93	-0.46	-177.54
	NORMAL	5,517.00	4.66	275.04	5,194.28	-126.78	-1,691.89	1,696.64	0.57	-0.28	-5.99	-121.73
	NORMAL	5,612.00	4.48	280.14	5,288.98	-125.79	-1,699.39	1,704.03	0.47	-0.19	5.37	116.42
	NORMAL	5,707.00	4.13	278.03	5,383.71	-124.66	-1,706.43	1,710.97	0.40	-0.37	-2.22	-156.70
	NORMAL	5,802.00	3.78	293.32	5,478.49	-122.94	-1,712.69	1,717.08	1.17	-0.37	16.09	115.89
	NORMAL	5,897.00	2.81	315.56	5,573.34	-120.04	-1,717.20	1,721.35	1.67	-1.02	23.41	137.95
	NORMAL	5,992.00	2.02	347.82	5,668.25	-116.74	-1,719.18	1,723.08	1.62	-0.83	33.96	135.61
	NORMAL	6,087.00	1.85	346.85	5,763.20	-113.61	-1,719.89	1,723.54	0.18	-0.18	-1.02	-169.58
	NORMAL	6,182.00	1.41	2.32	5,858.16	-110.95	-1,720.19	1,723.64	0.65	-0.46	16.28	142.55
	NORMAL	6,277.00	1.32	353.18	5,953.14	-108.69	-1,720.27	1,723.55	0.25	-0.09	-9.62	-116.98
	NORMAL	6,372.00	1.49	41.96	6,048.11	-106.69	-1,719.57	1,722.70	1.23	0.18	51.35	106.78
	NORMAL	6,467.00	1.58	41.08	6,143.08	-104.78	-1,717.89	1,720.87	0.10	0.09	-0.93	-15.12
	NORMAL	6,562.00	1.58	36.95	6,238.04	-102.75	-1,716.24	1,719.07	0.12	0.00	-4.35	-92.06
	NORMAL	6,656.00	1.32	57.78	6,332.01	-101.14	-1,714.54	1,717.26	0.62	-0.28	22.16	126.42
	NORMAL	6,751.00	1.14	67.18	6,426.99	-100.19	-1,712.75	1,715.40	0.28	-0.19	9.89	136.37
	NORMAL	6,846.00	1.32	77.64	6,521.97	-99.59	-1,710.81	1,713.42	0.30	0.19	11.01	56.59
	NORMAL	6,941.00	1.23	92.32	6,616.94	-99.39	-1,708.72	1,711.32	0.36	-0.09	15.45	112.66
	NORMAL	7,035.00	1.41	83.79	6,710.92	-99.31	-1,706.56	1,709.16	0.28	0.19	-9.07	-51.83
	NORMAL	7,130.00	1.41	101.11	6,805.89	-99.41	-1,704.25	1,708.87	0.45	0.00	18.23	98.66
	NORMAL	7,225.00	1.14	98.73	6,900.87	-99.78	-1,702.17	1,704.82	0.29	-0.28	-2.51	-170.09
	NORMAL	7,319.00	1.58	106.99	6,994.84	-100.30	-1,700.01	1,702.70	0.51	0.47	8.79	28.18
	NORMAL	7,414.00	1.41	114.91	7,089.81	-101.17	-1,697.70	1,700.46	0.28	-0.18	8.34	133.36
	NORMAL	7,509.00	1.67	118.95	7,184.77	-102.33	-1,695.43	1,698.29	0.30	0.27	4.25	24.69
	NORMAL	7,604.00	1.67	121.85	7,279.73	-103.73	-1,693.04	1,696.02	0.09	0.00	3.05	91.45
	NORMAL	7,699.00	1.49	141.45	7,374.70	-105.43	-1,691.09	1,694.21	0.60	-0.19	20.63	118.05
	NORMAL	7,794.00	1.41	135.38	7,469.67	-107.23	-1,689.50	1,692.76	0.18	-0.08	-6.39	-120.52
	NORMAL	7,889.00	1.41	140.66	7,564.64	-108.96	-1,687.94	1,691.33	0.14	0.00	5.56	92.64
	NORMAL	7,984.00	1.67	137.14	7,659.60	-110.88	-1,686.26	1,689.80	0.29	0.27	-3.71	-21.76
	NORMAL	8,080.00	1.41	132.13	7,755.57	-112.70	-1,684.43	1,688.12	0.30	-0.27	-5.22	-155.11
	NORMAL	8,172.00	1.67	144.08	7,847.54	-114.55	-1,682.80	1,686.64	0.45	0.28	12.99	57.08
	NORMAL	8,267.00	1.58	154.28	7,942.50	-116.85	-1,681.42	1,685.44	0.32	-0.09	10.74	112.34
	NORMAL	8,362.00	1.85	133.89	8,037.46	-119.09	-1,679.75	1,683.94	0.70	0.28	-21.46	-76.55
	NORMAL	8,457.00	1.41	107.26	8,132.42	-120.50	-1,677.53	1,681.83	0.91	-0.46	-28.03	-133.01
	NORMAL	8,552.00	1.23	72.81	8,227.40	-120.55	-1,675.44	1,679.75	0.84	-0.19	-36.26	-119.62
	NORMAL	8,647.00	0.62	25.87	8,322.38	-119.78	-1,674.24	1,678.50	0.97	-0.64	-49.41	-150.68
	NORMAL	8,742.00	0.88	330.50	8,417.38	-118.68	-1,674.37	1,678.55	0.77	0.27	-58.28	-99.40
	NORMAL	8,837.00	0.79	315.47	8,512.37	-117.58	-1,675.19	1,679.28	0.25	-0.09	-15.82	-119.74
	NORMAL	8,932.00	0.79	309.67	8,607.36	-116.70	-1,676.16	1,680.17	0.08	0.00	-6.11	-92.90
	NORMAL	9,027.00	0.62	301.15	8,702.35	-116.01	-1,677.10	1,681.06	0.21	-0.18	-8.97	-152.55
	NORMAL	9,122.00	0.62	297.10	8,797.34	-115.51	-1,678.00	1,681.92	0.05	0.00	-4.26	-92.02

## 2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
3/26/2010	NORMAL	9,217.00	0.70	290.95	8,892.34	-115.07	-1,679.00	1,682.88	0.11	0.08	-6.47	-44.63
	NORMAL	9,312.00	0.70	262.47	8,987.33	-114.94	-1,680.11	1,683.99	0.36	0.00	-29.98	-104.24
	NORMAL	9,407.00	0.62	256.85	9,082.33	-115.13	-1,681.19	1,685.07	0.11	-0.08	-5.92	-143.81
	NORMAL	9,502.00	0.35	273.20	9,177.32	-115.23	-1,681.98	1,685.87	0.32	-0.28	17.21	160.88
	NORMAL	9,596.00	0.35	235.58	9,271.32	-115.38	-1,682.50	1,686.40	0.24	0.00	-40.02	-108.81
	NORMAL	9,691.00	0.18	217.21	9,366.32	-115.66	-1,682.83	1,686.75	0.20	-0.18	-19.34	-162.43
	NORMAL	9,786.00	0.18	170.63	9,461.32	-115.93	-1,682.90	1,686.84	0.15	0.00	-49.03	-113.29
	NORMAL	9,880.00	0.26	157.97	9,555.32	-116.27	-1,682.80	1,686.76	0.10	0.09	-13.47	-37.72
	NORMAL	9,975.00	0.18	151.03	9,650.32	-116.60	-1,682.64	1,686.63	0.09	-0.08	-7.31	-165.03
	NORMAL	10,070.00	0.44	150.76	9,745.32	-117.05	-1,682.39	1,686.42	0.27	0.27	-0.28	-0.46
	NORMAL	10,165.00	0.70	129.23	9,840.31	-117.74	-1,681.76	1,685.84	0.35	0.27	-22.66	-50.58
	NORMAL	10,359.00	0.97	164.04	10,034.29	-120.07	-1,680.40	1,684.66	0.29	0.14	17.94	80.12
	NORMAL	10,753.00	0.88	127.30	10,428.24	-125.11	-1,677.07	1,681.73	0.15	-0.02	-9.32	-116.70
	NORMAL	11,000.00	0.88	134.33	10,675.21	-127.58	-1,674.21	1,679.06	0.04	0.00	2.85	93.51
	NORMAL	11,057.00	0.88	134.33	10,732.21	-128.19	-1,673.58	1,678.48	0.00	0.00	0.00	0.00
3/27/2010	NORMAL	250.00	2.04	279.15	249.98	1.57	-1.16	1.04	0.00	0.00	0.00	0.00
3/27/2010	NORMAL	1,434.00	23.80	266.19	1,397.41	-18.79	-261.04	261.71	3.67	3.50	2.75	17.62
5/12/2010	NORMAL	2,734.00	22.69	264.28	2,578.80	-63.51	-800.97	803.48	0.00	0.00	0.00	0.00

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU-0579
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute Tr
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 920-13D2DS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0422 FNL 2135 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 13 Township: 09.0S Range: 20.0E Meridian: S		<b>9. API NUMBER:</b> 43047505220000
<b>PHONE NUMBER:</b> 720 929-6515 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

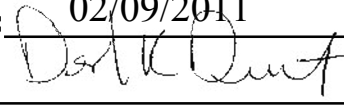
TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 2/4/2011  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input checked="" type="checkbox"/> <b>CASING REPAIR</b> <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <span style="border: 1px solid black; display: inline-block; width: 100px; height: 15px; vertical-align: middle;"></span>

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  

The operator requests approval to conduct wellhead/casing repair operations on the subject well location. Please find the attached procedure for the proposed repair work on the subject well location.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**

Date: 02/09/2011

By: 

<b>NAME (PLEASE PRINT)</b> Gina Becker	<b>PHONE NUMBER</b> 720 929-6086	<b>TITLE</b> Regulatory Analyst II
<b>SIGNATURE</b> N/A		<b>DATE</b> 2/4/2011

**WORKORDER #:** 88118791

**Name:** NBU 920-13D2DS  
**Location:** NENW SEC.13, T9S, R20E  
Uintah County, UT

2/3/11

**ELEVATIONS:** 4710' GL 4729' KB

**TOTAL DEPTH:** 11,057' **PBTD:** 10,979'

**SURFACE CASING:** 8 5/8", 28# J-55 ST&C @ 2751'

**PRODUCTION CASING:** 4 1/2", 11.6#, I-80 LT&C @ 11,025'  
Marker Joint 4845' - 4858'

**PRODUCTION TUBING:** 2 3/8" 4.7# J-55 @ 10,436'

**PERFORATIONS:** Mesaverde 8776' - 10,886'

Tubular/Borehole	Drift inches	Collapse psi	Burst psi	Capacities		
				Gal./ft.	Cuft/ft.	Bbl./ft.
2.375" 4.7# J-55 tbg.	1.901	8100	7700	0.1624	0.02173	0.00387
4.5" 11.6# N-80	3.875	6350	7780	0.6528	0.0872	0.0155
8.625" 24# J-55	8.097	1370	2950	2.6749	0.3537	0.0636
13.385" 48# H-40						
<b>Annular Capacities</b>						
2.3/8" tbg. X 4 1/2" 17# csg				0.4226	0.0565	0.01006
4.5" csg X 8 5/8" 24# csg				1.8487	0.2471	0.044
8 5/8" csg X 13.385" 48# csg				3.561	0.476	0.0848
4.5" csg X 7 7/8 borehole				1.704	0.2278	0.0406
8.5/8" csg X 12 1/4" borehole				3.0874	0.4127	0.0735
13 3/8" csg X 17 1/2" borehole				5.1963	0.6946	0.1237

**GEOLOGICAL TOPS:**

2021' Green River  
2163' Bird's Nest  
2819' Mahogany  
5495' Wasatch  
8763' Mesaverde  
11057' Bottom of Mesaverde (TD)

## **NBU 920-13D2DS – WELLHEAD REPLACEMENT PROCEDURE WO# 88118791**

### **PREP-WORK PRIOR TO MIRU:**

1. Dig out down to the 2" surface casing valve or to the valve on the riser off the surface casing.
2. Install a tee with 2 valves, with a pressure gauge and sensor on one valve.
3. Open casing valve and record pressures.
4. Install nipple and steel hose on the other valve, the relief valve,. Do not use hammer unions. No impact equipment or tools to be used for any of this installation. Extend hose and hard piping to a downwind location at least 100' from the wellhead. Consider installing a manifold so that vent area could be in two locations approx. 90 degrees apart from the wellhead.
5. Open the relief valve and blow well down to the atmosphere.
6. Make a determination of amount of gas flow, either by installation of a choke nipple, bucket test or other.
7. Shut well in. Observe for rate of build-up by utilizing sensor data. Do not build-up for more than 24 hours. Vent gas through the vent line and leave open to the atmosphere.

### **WORKOVER PROCEDURE:**

1. MIRU workover rig.
2. Kill well with 10# brine / KCL (dictated by well pressure ).
3. Remove tree, install double BOP with blind and 2 3/8" pipe rams, with accumulator closing unit and manual back-ups. Function test BOP system.
4. Pooh w/ tubing.
5. Rig up wireline service. RIH and set CBP @ ~8726'. Dump bail 4 sx cement on top of plug. POOH and RD wireline service.
6. Remove BOP and ND WH.
7. Depending on conditions at wellsite, continue with either CUT/PATCH Procedure or BACK-OFF Procedure.

### **CUT/PATCH PROCEDURE:**

1. PU internal casing cutters and RIH. Cut casing at +/- 30' from surface.
2. Pooh, LD cutters and casing.
3. PU & RIH w/ 4 1/2" 10k external casing patch on 4 1/2" I-80 or P-110 casing.

4. Latch fish, PU to 100,000# tension. RU B&C. Cycle pressure test to 7,000# / 9,000# psi.
5. Install C-22 slips. Land casing w/ 80,000# tension.
6. Cut-off and dress 4 ½" casing stub.
7. NUWH. PU 3 7/8" bit, POBS and RIH. D/O cement and plug ~8726'. Clean out to PBSD (10,979').
8. POOH, land tbg and pump off POBS.
9. NUWH, RDMO. Turn well over to production ops.

**BACK-OFF PROCEDURE:**

1. PU internal casing cutters and RIH. Cut casing at +/- 6' from surface.
2. POOH, LD cutters and casing.
3. PU 4 ½" overshot. RIH, latch fish. Pick string weight to neutral.
4. MIRU wireline services. RIH and shoot string shot at casing collar @ 46'.
5. MIRU casing crew.
6. Back-off casing, Pooh.
7. PU new casing joint w/ entry guide and RIH. Tag casing top. Thread into casing and torque up to +/- 6000#.
8. PU 100,000# tension string weight. RU B&C. Cycle pressure test to 7,000# / 9,000# psi.
9. Install C-22 slips. Land casing w/ 80,000# tension.
10. Cut-off and dress 4 ½" casing stub.
11. NUWH. PU 3 7/8" bit, POBS and RIH. D/O cement and plug ~8726'. Clean out to PBSD (10,979').
12. POOH, land tbg and pump off POBS.
13. NUWH, RDMO. Turn well over to production ops.





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## **Logan High Pressure Casing Patches Assembly Procedure**

All parts should be thoroughly greased before being assembled.

1. Install all four Logan Type "L" Packers in the spaces provided in the Casing Patch Bowl. Refer to diagram provided for proper installation.
2. Install Packer Protector from the Basket Grapple end of the Bowl. The beveled end of the Packer Protector goes in first. Carefully push the Packer Protector through the four Type "L" Packers.
3. Align Shear Pin Holes in Packer Protector so that the holes have just passed into the counter bore at the Top Sub end, refer to diagram. The Packer Protector is provided with four Shear Pin Holes. Use only two holes, 180 degrees apart and install the pins.
4. Screw the Basket Grapple in from the lower end of the Bowl, using left-hand rotation. The Tang Slot in the Basket Grapple must land in line with the slot in the Bowl.
5. Insert the Basket Grapple Control into the end of the Bowl. Align Tang on the Basket Grapple Control with the Tang Slot of the Bowl and Basket Grapple. This secures the Bowl and the Basket Grapple together.
6. Install the Cutlipped Guide into the lower end of the Bowl.
7. Install O-Rings on the two five-foot long Extensions. Screw the first Extension into the top end of the Bowl. Screw the second Extension into the top end of the first Extension.
8. Install O-Ring on Top Sub. Screw Top Sub into top end of second Extension.

Follow recommended Make-Up Torque as provided in chart.

PACKER PROTECTOR  
FULLY SEATED IN TOP SUB

4.08

4.75

PACKER PROTECTOR  
IN RUNNING POSITION

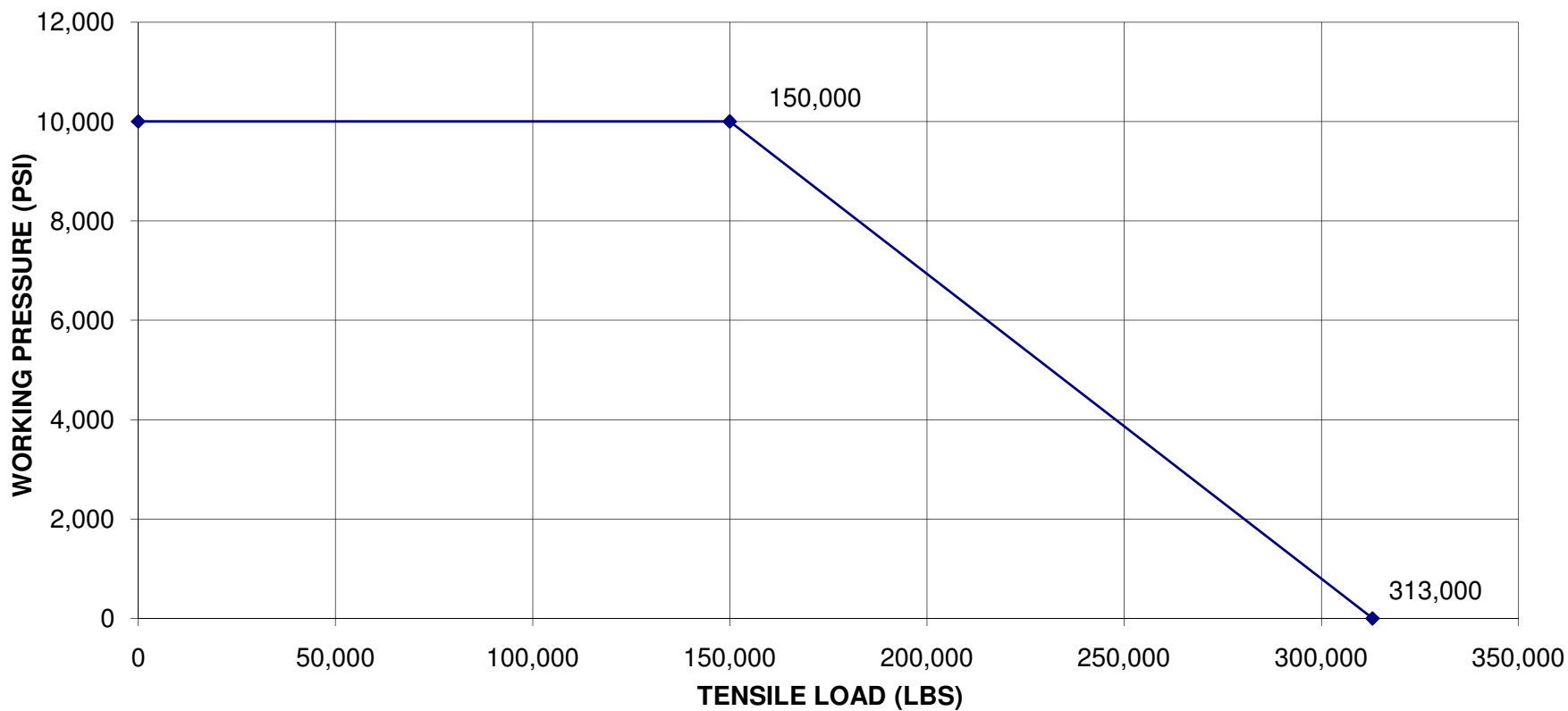
52.70

31.75

36.24

21.43

**STRENGTH DATA FOR LOGAN 5.88" OD "L" TYPE CSG PATCH  
4-1/2 CASING, 10K PSI MAX WP 125K YIELD MAT'L  
LOGAN ASSEMBLY NO. 510L-005 -000**



COLLAPSE PRESSURE:  
11,222 PSI @ 0 TENSILE  
8,634 PSI @ 220K TENSILE

Tensile Strength @ Yield:  
Tensile Strength w/ 0 Int. Press.= 472,791lbs.  
Tensile Strength w/ 10K Int. Press.= 313,748lbs.

DATA BY SLS 11/16/2009

RECEIVED February 04, 2011

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU-0579
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute Tr
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 920-13D2DS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0422 FNL 2135 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 13 Township: 09.0S Range: 20.0E Meridian: S		<b>9. API NUMBER:</b> 43047505220000
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	
<input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 5/19/2011	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input checked="" type="checkbox"/> OTHER	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION	
<input type="checkbox"/> DRILLING REPORT Report Date:	OTHER: <input type="text" value="Wellhead Repair"/>	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b>  The operator has concluded wellhead/casing repairs on the subject well location. Please see the attached chronological history for details of the operations.		
<b>Accepted by the          Utah Division of          Oil, Gas and Mining          FOR RECORD ONLY</b>		
<b>NAME (PLEASE PRINT)</b> Gina Becker	<b>PHONE NUMBER</b> 720 929-6086	<b>TITLE</b> Regulatory Analyst II
<b>SIGNATURE</b> N/A	<b>DATE</b> 5/19/2011	

## US ROCKIES REGION

### Operation Summary Report

Well: NBU 920-13D2DS YELLOW				Spud Conductor: 3/10/2010			Spud Date: 3/27/2010			
Project: UTAH-UINTAH				Site: NBU 920-13C PAD				Rig Name No: SWABBCO 6/6		
Event: WELL WORK EXPENSE				Start Date: 3/9/2011				End Date: 3/17/2011		
Active Datum: RKB @4,729.00ft (above Mean Sea Leve				UWI: NE/NW/0/9/S/20/W/13/0/0/6/PM/N/518.00/W/0/450.00/0/0						
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation		
3/9/2011	7:00 - 7:15	0.25	WO/REP	48		P		JSA= WELL CONTROL		
	7:15 - 18:00	10.75	WO/REP	30		P		100 PSI ON WELL MIRU RU & PUMP 20 BBLS TMAC DWN TUB TO CONTROL WELL ND WELLHEAD NU BOPS RU FLOOR & TUBING EQUIP PMP 20 BBLS TMAC DWN CAS TO CONTROL WELL UNLAD TUBING LD HANGER POOH W/ TUBING STAND BACK 135 STANDS & LD 59 JNTS LD BHA RU W/L PU 10K CBP RIH SET @ 8720' POOH PU DUMP BAILER RIH TO CBP DUMP 4 SKS CEM IN 2 RUNS RD W/L PU NOTCHED 1.87XN RIH LAND TUBING ON HANGER W/ 270 JNTS EOT @ 8566.55' SWI SDFN		
3/16/2011	7:00 - 7:15	0.25	WO/REP	48		P		JSA RU RIG		
	7:15 - 16:00	8.75	WO/REP	30		P		0 PSI ON WELL RU RIG ND WELL NU BOPS RU FLOOR & TUBING EQUIP UNLAND TUBING LD HNGR POOH W/ 270 JNTS LD BHA ND BOPS & WELLHEAD DIG OUT TO SURFACE FLANGE FOUND X OVER HEAD IN PLACE W/ SLIPS & H PLATE SEND ALL CONTRACTORS HOME NU WELLHEAD & BOPS RU FLOOR & TUBING EQUIP PU POBS PKG RIH TAG CEM @ 8670' RU PWR SWVL PREP TO DRILL IN AM SDFN		
3/17/2011	7:00 - 7:15	0.25	WO/REP	48		P		JSA= FOAMING		
	7:15 - 17:00	9.75	WO/REP	30		P		0 PSI ON WELL EST CIRC W/ FOAMER EOT @ 8660' TAG CEM @ 8670' C/O & DRILL THRU CEM & CBP CONTINUE TO RIH TAG @10919' PIPE STUCK @ TAG EST CIRC W/ FOAMER WORK TUBING LOOSE SUSPECT PLUG PART AROUND BIT POOH LD 16 JNTS LAND TUBING ON HANGER W/ 329 JNTS L-80 EOT @ 10431.76' RD FLOOR & TUBING EQUIP ND BOPS NU WELLHEAD DROP BALL PUMP BIT OFF @ 0 PSI PMP 97 BBLS RD RIG & PMP MOVE RIG & EQUIP TO NBU 921-27LT		
								K.B.=	19.00	
								HANGER=	1.00	
								329 JNTS 2-3/8" L-80=	10409.56	
								POBS=	2.20	
								EOT @=	10431.76	

## DIVISION OF OIL, GAS AND MINING

### **SPUDDING INFORMATION**

Name of Company: KERR-McGEE OIL & GAS COMPANY, L.P.

Well Name: NBU 920-13D2DS

Api No: 43-047-50522 Lease Type: FEDERAL

Section 13 Township 09S Range 20E County UINTAH

Drilling Contractor PETE MARTIN DRLG RIG # BUCKET

### **SPUDDED:**

Date 03/10/2010

Time 3:00 PM

How DRY

**Drilling will Commence:** \_\_\_\_\_

Reported by JAMES GOBER

Telephone # (435) 828-7024

Date 03/11/2010 Signed CHD



**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 6

**ENTITY ACTION FORM**

Operator: KERR McGEE OIL & GAS ONSHORE LP Operator Account Number: N 2995  
Address: P.O. Box 173779  
city DENVER  
state CO zip 80217 Phone Number: (720) 929-6100

**Well 1**

API Number	Well Name	QQ	Sec	Twp	Rng	County
4304750523	NBU 920-13C1AS	NENN	13	9S	20E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date	
B	99999	2900	3/10/2010		3/22/10	
<b>Comments:</b> MIRU PETE MARTIN BUCKET RIG. <u>WSMVD</u> SPUD WELL LOCATION ON 3/10/2010 AT 9:00 HRS. <u>BHL = NENW</u>						

**Well 2**

API Number	Well Name	QQ	Sec	Twp	Rng	County
4304750524	NBU 920-13C4BS	NENW	13	9S	20E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date	
B	99999	2900	3/10/2010		3/22/10	
<b>Comments:</b> MIRU PETE MARTIN BUCKET RIG. <u>WSMVD</u> SPUD WELL LOCATION ON 3/10/2010 AT 12:00 HRS. <u>BHL = NENW</u>						

**Well 3**

API Number	Well Name	QQ	Sec	Twp	Rng	County
4304750522	NBU 920-13D2DS	NENW	13	9S	20E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date	
B	99999	2900	3/10/2010		3/22/10	
<b>Comments:</b> MIRU PETE MARTIN BUCKET RIG. <u>WSMVD</u> SPUD WELL LOCATION ON 3/10/2010 AT 15:00 HRS. <u>BHL = Sec 12 SWSW</u>						

**ACTION CODES:**

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

**RECEIVED**

**MAR 11 2010**

ANDY LYTLE

Name (Please Print)

Signature

REGULATORY ANALYST

Title

3/11/2010

Date